

Sequence Listing

<110> Baker, Kevin P.
Botstein, David
Desnoyers, Luc
Eaton, Dan L.
Ferrara, Napoleone
Fong, Sherman
Gao, Wei-Qiang
Goddard, Audrey
Godowski, Paul J.
Grimaldi, Christopher J.
Gurney, Austin L.
Hillan, Kenneth J.
Pan, James
Paoni, Nicholas F.
Roy, Margaret Ann
Smith, Victoria
Stewart, Timothy A.
Tumas, Daniel
Watanabe, Colin K.
Williams, P. Mickey
Wood, William I.

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agagaaccta ttgaagtgaa cctgttgga ctcatcagtg tgacactaaa 550
tatgottcct ttggtaaga aagctcaagg gagagttatt aatgtctcca 600
gtgttggagg tcgccttgca atcgttggag gggctatac tccatccaaa 650
tatgcagtgg aaggttcaa tgacagctta agacgggaca tgaaagctt 700
tggtagtcac gtctcatgca ttgaaccagg attgttcaaa acaaacttgg 750
cagatccagt aaaggtaatt gaaaaaaaaac tcgccatttg ggagcagctg 800
tctccagaca tcaaacaaca atatggagaa gttacattt aaaaaagtct 850
agacaaactg aaaggcaata aatcctatgt gaacatggac ctctccgg 900
tggtagatg catggaccac gctctaaca gtctttccc taagactcat 950
tatgccgctg gaaaagatgc caaaattttc tggatacctc tgttcacat 1000
gccagcagct ttgcaagact tttattgtt gaaacagaaa gcagagctgg 1050
ctaattccaa ggcagtgtga ctcaagctaac cacaaatgtc tcctccaggc 1100
tatgaaattt ggcgatttca agaacacatc tcctttcaa cccatttcc 1150
tatctgctcc aacctggact catttagatc gtgcttattt ggattgcaaa 1200
agggagtccc accatcgctg gtggatatccc agggccctg ctcaagttt 1250
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gtatttaggc ttgcctgct tggtagatg taaggaaat tgaaagactt 1350
gcccattcaa aatgatctt accgtggct gccccatgct tatggtcccc 1400
agcatttaca gtaacttgg aatgttaagt atcatcttt atctaaatat 1450
taaaagataa gtcaacccaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500
aaaaaaaaa 1508

<210> 10
<211> 319
<212> PRT
<213> Homo sapiens

<220>
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<222> 1-17
<223> Signal Peptide

<220>
<221> misc_feature

<222> 36-47, 108-113, 166-171, 198-203, 207-212

<223> N-myristoylation Sites.

<220>

<221> misc_feature

<222> 39-42

<223> Glycosaminoglycan Attachment Site.

<220>

<221> TRANSMEM

<222> 136-152

<223> Transmembrane Domain

<220>

<221> misc_feature

<222> 161-163, 187-190 and 253-256

<223> N-glycosylation Sites.

<400> 10

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Phe | Trp | Val | Leu | Gly | Leu | Leu | Ile | Leu | Cys | Gly | Phe | Leu |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Thr | Arg | Lys | Gly | Lys | Leu | Lys | Ile | Glu | Asp | Ile | Thr | Asp | Lys |
| | | | | | | 20 | | 25 | | | | | | 30 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Ile | Phe | Ile | Thr | Gly | Cys | Asp | Ser | Gly | Phe | Gly | Asn | Leu | Ala |
| | | | | | 35 | | | 40 | | | | | 45 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Thr | Phe | Asp | Lys | Lys | Gly | Phe | His | Val | Ile | Ala | Ala | Cys |
| | | | | | 50 | | | 55 | | | | | 60 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Thr | Glu | Ser | Gly | Ser | Thr | Ala | Leu | Lys | Ala | Glu | Thr | Ser | Glu |
| | | | | | 65 | | | 70 | | | | | 75 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Leu | Arg | Thr | Val | Leu | Leu | Asp | Val | Thr | Asp | Pro | Glu | Asn | Val |
| | | | | 80 | | | | 85 | | | | | 90 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Arg | Thr | Ala | Gln | Trp | Val | Lys | Asn | Gln | Val | Gly | Glu | Lys | Gly |
| | | | | 95 | | | | 100 | | | | | 105 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Trp | Gly | Leu | Ile | Asn | Asn | Ala | Gly | Val | Pro | Gly | Val | Leu | Ala |
| | | | | 110 | | | | 115 | | | | | 120 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Thr | Asp | Trp | Leu | Thr | Leu | Glu | Asp | Tyr | Arg | Glu | Pro | Ile | Glu |
| | | | 125 | | | | | 130 | | | | | 135 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Asn | Leu | Phe | Gly | Leu | Ile | Ser | Val | Thr | Leu | Asn | Met | Leu | Pro |
| | | | | | 140 | | | | 145 | | | | 150 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Lys | Lys | Ala | Gln | Gly | Arg | Val | Ile | Asn | Val | Ser | Ser | Val |
| | | | | | 155 | | | | 160 | | | | 165 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Gly | Gly | Arg | Leu | Ala | Ile | Val | Gly | Gly | Tyr | Thr | Pro | Ser | Lys | |
| | | | | | 170 | | | 175 | | | | | 180 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Ala | Val | Glu | Gly | Phe | Asn | Asp | Ser | Leu | Arg | Arg | Asp | Met | Lys |
| | | | | | 185 | | | | 190 | | | | 195 | |

Ala Phe Gly Val His Val Ser Cys Ile Glu Pro Gly Leu Phe Lys
200 205 210

Thr Asn Leu Ala Asp Pro Val Lys Val Ile Glu Lys Lys Leu Ala
215 220 225

Ile Trp Glu Gln Leu Ser Pro Asp Ile Lys Gln Gln Tyr Gly Glu
230 235 240

Gly Tyr Ile Glu Lys Ser Leu Asp Lys Leu Lys Gly Asn Lys Ser
245 250 255

Tyr Val Asn Met Asp Leu Ser Pro Val Val Glu Cys Met Asp His
260 265 270

Ala Leu Thr Ser Leu Phe Pro Lys Thr His Tyr Ala Ala Gly Lys
275 280 285

Asp Ala Lys Ile Phe Trp Ile Pro Leu Ser His Met Pro Ala Ala
290 295 300

Leu Gln Asp Phe Leu Leu Lys Gln Lys Ala Glu Leu Ala Asn
305 310 315

Pro Lys Ala Val

<210> 11
<211> 2720
<212> DNA
<213> Homo sapines

<400> 11
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gccctttgggg ccgtcgccac cactgttagtc atgtaccac cggccggcc 150
gccgcctcat cgggacttca tctcggtgac gctgagcttt ggcgagagct 200
atgacaacag caagagttgg cggcggcgct cgtgctggag gaaatggaag 250
caactgtcga gattgcagcg gaatatgatt ctcttcctcc ttgcctttct 300
gcttttctgt ggactcctct tctacatcaa cttggctgac cattggaaag 350
ctctggcttt caggcttagag gaagagcaga agatgaggcc agaaattgct 400
gggttaaac cagcaaattcc acccgcttta ccagctcctc agaaggcgga 450
caccgaccct gagaacttac ctgagatttc gtcacagaag acacaaagac 500
acatccagcg gggaccacct cacctgcaga ttagaccccc aagccaagac 550
ctgaaggatg ggacccagga ggaggccaca aaaaggcaag aagccctgt 600
ggatccccgc ccggaaggag atccgcagag gacagtcatc agctggaggg 650

gagcggtgat cgagcctgag cagggcaccg agtcccttc aagaagagca 700
gaagtgccca ccaagcctcc cctgccaccg gccaggacac agggcacacc 750
agtgcacatcg aactatcgcc agaagggcgt gattgacgtc ttcctgcatt 800
catggaaagg ataccgcaag tttgcatggg gccatgacga gctgaagcct 850
gtgtccaggt ctttcagtga gtgggttggc ctccgtctca cactgatcga 900
cgcgctggac accatgtgga tcttgggtct gaggaaagaa tttgaggaag 950
ccaggaagtg ggtgtcgaag aagttacact ttgaaaagga cgtggacgtc 1000
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cctcctggcc gccccgcagg gggcttggag ggctggacgg caagtccgtc 2650
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ttgatttgct ctaaccgcaa 2720

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<211> 699
<212> PRT
<213> Homo sapiens

<220>
<221> TRANSMEM
<222> 21-40 and 84-105
<223> Transmembrane Domain (type II)

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Gln Ser Asp Phe Leu Thr Pro Pro Val Gly Gly Ala Pro Trp Ala
20 25 30
Val Ala Thr Thr Val Val Met Tyr Pro Pro Pro Pro Pro Pro
35 40 45
His Arg Asp Phe Ile Ser Val Thr Leu Ser Phe Gly Glu Ser Tyr
50 55 60
Asp Asn Ser Lys Ser Trp Arg Arg Ser Cys Trp Arg Lys Trp
65 70 75
Lys Gln Leu Ser Arg Leu Gln Arg Asn Met Ile Leu Phe Leu Leu
80 85 90
Ala Phe Leu Leu Phe Cys Gly Leu Leu Phe Tyr Ile Asn Leu Ala
95 100 105

Asp His Trp Lys Ala Leu Ala Phe Arg Leu Glu Glu Glu Gln Lys
 110 115 120
 Met Arg Pro Glu Ile Ala Gly Leu Lys Pro Ala Asn Pro Pro Val
 125 130 135
 Leu Pro Ala Pro Gln Lys Ala Asp Thr Asp Pro Glu Asn Leu Pro
 140 145 150
 Glu Ile Ser Ser Gln Lys Thr Gln Arg His Ile Gln Arg Gly Pro
 155 160 165
 Pro His Leu Gln Ile Arg Pro Pro Ser Gln Asp Leu Lys Asp Gly
 170 175 180
 Thr Gln Glu Glu Ala Thr Lys Arg Gln Glu Ala Pro Val Asp Pro
 185 190 195
 Arg Pro Glu Gly Asp Pro Gln Arg Thr Val Ile Ser Trp Arg Gly
 200 205 210
 Ala Val Ile Glu Pro Glu Gln Gly Thr Glu Leu Pro Ser Arg Arg
 215 220 225
 Ala Glu Val Pro Thr Lys Pro Pro Leu Pro Pro Ala Arg Thr Gln
 230 235 240
 Gly Thr Pro Val His Leu Asn Tyr Arg Gln Lys Gly Val Ile Asp
 245 250 255
 Val Phe Leu His Ala Trp Lys Gly Tyr Arg Lys Phe Ala Trp Gly
 260 265 270
 His Asp Glu Leu Lys Pro Val Ser Arg Ser Phe Ser Glu Trp Phe
 275 280 285
 Gly Leu Gly Leu Thr Leu Ile Asp Ala Leu Asp Thr Met Trp Ile
 290 295 300
 Leu Gly Leu Arg Lys Glu Phe Glu Glu Ala Arg Lys Trp Val Ser
 305 310 315
 Lys Lys Leu His Phe Glu Lys Asp Val Asp Val Asn Leu Phe Glu
 320 325 330
 Ser Thr Ile Arg Ile Leu Gly Gly Leu Leu Ser Ala Tyr His Leu
 335 340 345
 Ser Gly Asp Ser Leu Phe Leu Arg Lys Ala Glu Asp Phe Gly Asn
 350 355 360
 Arg Leu Met Pro Ala Phe Arg Thr Pro Ser Lys Ile Pro Tyr Ser
 365 370 375
 Asp Val Asn Ile Gly Thr Gly Val Ala His Pro Pro Arg Trp Thr
 380 385 390
 Ser Asp Ser Thr Val Ala Glu Val Thr Ser Ile Gln Leu Glu Phe

| | | |
|--|-----|-----|
| 395 | 400 | 405 |
| Arg Glu Leu Ser Arg Leu Thr Gly Asp Lys Lys Phe Gln Glu Ala 410 | 415 | 420 |
| Val Glu Lys Val Thr Gln His Ile His Gly Leu Ser Gly Lys Lys 425 | 430 | 435 |
| Asp Gly Leu Val Pro Met Phe Ile Asn Thr His Ser Gly Leu Phe 440 | 445 | 450 |
| Thr His Leu Gly Val Phe Thr Leu Gly Ala Arg Ala Asp Ser Tyr 455 | 460 | 465 |
| Tyr Glu Tyr Leu Leu Lys Gln Trp Ile Gln Gly Gly Lys Gln Glu 470 | 475 | 480 |
| Thr Gln Leu Leu Glu Asp Tyr Val Glu Ala Ile Glu Gly Val Arg 485 | 490 | 495 |
| Thr His Leu Leu Arg His Ser Glu Pro Ser Lys Leu Thr Phe Val 500 | 505 | 510 |
| Gly Glu Leu Ala His Gly Arg Phe Ser Ala Lys Met Asp His Leu 515 | 520 | 525 |
| Val Cys Phe Leu Pro Gly Thr Leu Ala Leu Gly Val Tyr His Gly 530 | 535 | 540 |
| Leu Pro Ala Ser His Met Glu Leu Ala Gln Glu Leu Met Glu Thr 545 | 550 | 555 |
| Cys Tyr Gln Met Asn Arg Gln Met Glu Thr Gly Leu Ser Pro Glu 560 | 565 | 570 |
| Ile Val His Phe Asn Leu Tyr Pro Gln Pro Gly Arg Arg Asp Val 575 | 580 | 585 |
| Glu Val Lys Pro Ala Asp Arg His Asn Leu Leu Arg Pro Glu Thr 590 | 595 | 600 |
| Val Glu Ser Leu Phe Tyr Leu Tyr Arg Val Thr Gly Asp Arg Lys 605 | 610 | 615 |
| Tyr Gln Asp Trp Gly Trp Glu Ile Leu Gln Ser Phe Ser Arg Phe 620 | 625 | 630 |
| Thr Arg Val Pro Ser Gly Gly Tyr Ser Ser Ile Asn Asn Val Gln 635 | 640 | 645 |
| Asp Pro Gln Lys Pro Glu Pro Arg Asp Lys Met Glu Ser Phe Phe 650 | 655 | 660 |
| Leu Gly Glu Thr Leu Lys Tyr Leu Phe Leu Leu Phe Ser Asp Asp 665 | 670 | 675 |
| Pro Asn Leu Leu Ser Leu Asp Ala Tyr Val Phe Asn Thr Glu Ala 680 | 685 | 690 |

His Pro Leu Pro Ile Trp Thr Pro Ala
695

<210> 13
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 13
cgccagaagg gcgtgattga cgtc 24

<210> 14
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 14
ccatccttct tcccagacag gccg 24

<210> 15
<211> 44
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.

<400> 15
gaaggctgtg tccaggtcct tcagttagtg gtttggcctc ggtc 44

<210> 16
<211> 1524
<212> DNA
<213> Homo sapiens

<400> 16
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gcgcagctgc cctgggagga cggcaggtcc gggttgtct ccggcggcct 150
ccctcgaaag tggccgtct tccacctgtt cgtggcctgc ctctcgctgg 200
gcttcttctc cctactctgg ctgcagctca gctgctctgg ggacgtggcc 250

cgggcagtca gggacaagg gcaggagacc tcgggcctc cccgtgcctg 300
ccccccagag ccgcgcctg agcactggga agaagacgca tcctgggcc 350
cccacccgcct ggcagtgcgt gtgccttcc gogaacgcct cgaggagctc 400
ctggtcttcg tgccccacat ggcgcgcctc ctgagcagga agaagatccg 450
gcaccacatc tacgtgctca accaggtgga ccacttcagg ttcaaccggg 500
cagcgctcat caacgtggc ttcctggaga gcagcaacag cacggactac 550
attgccatgc acgacgttga cctgctccct ctcaacgagg agctggacta 600
tggcttcct gaggctggc cttccacgt ggcctcccg gagctccacc 650
ctctctacca ctacaagacc tatgtcgccg gcatcctgct gctctccaag 700
cagcactacc ggctgtgcaa tggatgtcc aaccgcttct gggctgggg 750
ccgcgaggac gacgagttct accggcgcat taagggagct gggctccagc 800
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catgacccag cctggcgaa gagggaccag aagcgcatcg cagctaaaaa 900
acaggagcag ttcaaggtgg acagggaggg aggccctgaac actgtgaagt 950
accatgtggc ttcccgact gccctgtctg tggcgccggc cccctgcact 1000
gtcctaaca tcatgttggc ctgtgacaag accgccacac cctggtgac 1050
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cgggacccccc cctgccttcc tgctcacccct actctgaccc cttcacgtg 1350
cccaggcctg tggtagtgg ggagggctga acaggacaac ctctcatcac 1400
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aaaaaaaaaa aaaaaaaaaa aaaa 1524

<210> 17
<211> 327
<212> PRT
<213> Homo sapiens

<220>

<221> sig_peptide
 <222> 1-42
 <223> Signal peptide.

 <220>
 <221> misc_feature
 <222> 19-25, 65-71, 247-253, 285-291, 303-310
 <223> N-myristoylation site.

 <220>
 <221> misc_feature
 <222> 27-31
 <223> cAMP- and cGMP-dependent protein kinase phosphorylation site.

 <220>
 <221> TRANSMEM
 <222> 29-49
 <223> Transmembrane domain (type II).

 <220>
 <221> misc_feature
 <222> 154-158
 <223> N-glycosylation site.

 <220>
 <221> misc_feature
 <222> 226-233
 <223> Tyrosine kinase phosphorylation site.

 <400> 17

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Pro | Ser | Arg | Arg | Lys | Ala | Ala | Gln | Leu | Pro | Trp | Glu | Asp |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Arg | Ser | Gly | Leu | Leu | Ser | Gly | Gly | Leu | Pro | Arg | Lys | Cys | Ser |
| | | | | 20 | | | | 25 | | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Phe | His | Leu | Phe | Val | Ala | Cys | Leu | Ser | Leu | Gly | Phe | Phe | Ser |
| | | | | | 35 | | | | 40 | | | | 45 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Trp | Leu | Gln | Leu | Ser | Cys | Ser | Gly | Asp | Val | Ala | Arg | Ala |
| | | | | 50 | | | | 55 | | | | | 60 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Arg | Gly | Gln | Gly | Gln | Glu | Thr | Ser | Gly | Pro | Pro | Arg | Ala | Cys |
| | | | | | 65 | | | 70 | | | | | 75 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Pro | Glu | Pro | Pro | Pro | Glu | His | Trp | Glu | Glu | Asp | Ala | Ser | Trp |
| | | | | | 80 | | | | 85 | | | | 90 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | His | Arg | Leu | Ala | Val | Leu | Val | Pro | Phe | Arg | Glu | Arg | Phe |
| | | | | | | | | 95 | | | | | 105 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Glu | Leu | Leu | Val | Phe | Val | Pro | His | Met | Arg | Arg | Phe | Leu | Ser |
| | | | | | 110 | | | | 115 | | | | 120 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Lys | Lys | Ile | Arg | His | His | Ile | Tyr | Val | Leu | Asn | Gln | Val | Asp |
| | | | | | | | | 125 | | | | | 135 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Phe | Arg | Phe | Asn | Arg | Ala | Ala | Leu | Ile | Asn | Val | Gly | Phe | Leu |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| 140 | 145 | 150 |
|---|-----|-----|
| Glu Ser Ser Asn Ser Thr Asp Tyr Ile Ala Met His Asp Val Asp | | |
| 155 | 160 | 165 |
| Leu Leu Pro Leu Asn Glu Glu Leu Asp Tyr Gly Phe Pro Glu Ala | | |
| 170 | 175 | 180 |
| Gly Pro Phe His Val Ala Ser Pro Glu Leu His Pro Leu Tyr His | | |
| 185 | 190 | 195 |
| Tyr Lys Thr Tyr Val Gly Gly Ile Leu Leu Leu Ser Lys Gln His | | |
| 200 | 205 | 210 |
| Tyr Arg Leu Cys Asn Gly Met Ser Asn Arg Phe Trp Gly Trp Gly | | |
| 215 | 220 | 225 |
| Arg Glu Asp Asp Glu Phe Tyr Arg Arg Ile Lys Gly Ala Gly Leu | | |
| 230 | 235 | 240 |
| Gln Leu Phe Arg Pro Ser Gly Ile Thr Thr Gly Tyr Lys Thr Phe | | |
| 245 | 250 | 255 |
| Arg His Leu His Asp Pro Ala Trp Arg Lys Arg Asp Gln Lys Arg | | |
| 260 | 265 | 270 |
| Ile Ala Ala Gln Lys Gln Glu Gln Phe Lys Val Asp Arg Glu Gly | | |
| 275 | 280 | 285 |
| Gly Leu Asn Thr Val Lys Tyr His Val Ala Ser Arg Thr Ala Leu | | |
| 290 | 295 | 300 |
| Ser Val Gly Gly Ala Pro Cys Thr Val Leu Asn Ile Met Leu Asp | | |
| 305 | 310 | 315 |
| Cys Asp Lys Thr Ala Thr Pro Trp Cys Thr Phe Ser | | |
| 320 | 325 | |

<210> 18
<211> 23
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.

<400> 18
gcgaacgctt cgaggagtcc tgg 23

<210> 19
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence

<222> 1-24
<223> Synthetic construct

<400> 19
gcagtgcggg aagccacatg gtac 24

<210> 20
<211> 46
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.

<400> 20
cttcctgagc aggaagaaga tccggcacca catctacgtg ctcaac 46

<210> 21
<211> 494
<212> DNA
<213> Homo sapiens

<400> 21
caatgtttgc ctagccacct cccccaaggcc cctttaccta tgctgctgct 50
aacgctgctg ctgctgctgc tgctgcttaa aggctcatgc ttggagtggg 100
gactggtcgg tgccccagaaa gtcttcttg ccactgacgc ccccatcagg 150
gattgggcct tctttcccccc ttcccttctg tgtctcctgc ctcatcgccc 200
tgccatgacc tgcaagccaaag cccagccccg tggggaaagggg gagaaaagtgg 250
gggatggcta agaaagctgg gagatagggg acagaagagg gtagtgggtg 300
ggctagggggg gctgccttat ttaaagtgggt tgtttatgat tcttatacta 350
atttatacaa agatattaag gccctgttca ttaagaaatt gttcccttcc 400
cctgtgttca atgtttgtaa agattgttct gtgtaaatat gtctttataaa 450
taaacagttt aaagctgaaa aaaaaaaaaa aaaaaaaaaa aaaa 494

<210> 22
<211> 73
<212> PRT
<213> Homo sapiens

<220>
<221> sig_peptide
<222> 1-15
<223> Signal peptide.

<220>
<221> misc_feature
<222> 3-18

<223> Growth factor and cytokines receptors family.

<400> 22

Met Leu Leu Leu Thr Leu Leu Leu Leu Leu Leu Lys Gly
1 5 10 15

Ser Cys Leu Glu Trp Gly Leu Val Gly Ala Gln Lys Val Ser Ser
20 25 30

Ala Thr Asp Ala Pro Ile Arg Asp Trp Ala Phe Phe Pro Pro Ser
35 40 45

Phe Leu Cys Leu Leu Pro His Arg Pro Ala Met Thr Cys Ser Gln
50 55 60

Ala Gln Pro Arg Gly Glu Gly Glu Lys Val Gly Asp Gly
65 70

<210> 23

<211> 2883

<212> DNA

<213> Homo sapiens

<400> 23

gggaccatg cggccgtgac ccccggtcc ctagaggccc agcgcagccg 50
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ggctccgggg cggcccgcta ggccagtgcg ccgcgcgtcg cccgcaggc 200
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gaagaatggc tcattttctg ggttaagtct ccttcaaaga ttggacctcc 550
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agacatattt cgaggactca ccaatctggt tcggctaaac ctttcgggga 700
atttgttttc ttcattatct caaggaactt ttgattatct tgcgtcatta 750
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gtggatgcat cgctggtaa aggagaagaa catcacgta cgggatacca 850

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caggagctgt tgacatgcga ccctccgctt gaattgccgt ctttctacat 950
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agtgcatggc ttcataatatt gatcaggaca tgcaagtgtt gtggtatcat 1050
gatgggagaa tagtgaaac cgatgaatcg caaggtatTT ttgttgaaaa 1100
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gaaattacat ttataactg cagtggata aatgcaaaata tactattgtt 2300

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tcaataatac cacaacaat attccagtca ttttaatggc tgcataataa 2800
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tattgaatga atgaacgaaa aaaaaaaaaaaa aaa 2883

<210> 24
<211> 616
<212> PRT
<213> Homo sapiens

<220>
<221> sig_peptide
<222> 1-33
<223> Signal peptide.

<220>
<221> TRANSMEM
<222> 13-40
<223> Transmembrane domain (type II).

<400> 24
Met Glu Pro Pro Gly Arg Arg Gly Arg Ala Gln Pro Pro Leu
1 5 10 15
Leu Leu Pro Leu Ser Leu Leu Ala Leu Leu Leu Gly Gly
20 25 30
Gly Gly Gly Gly Ala Ala Ala Leu Pro Ala Gly Cys Lys His
35 40 45
Asp Gly Arg Pro Arg Gly Ala Gly Arg Ala Ala Gly Ala Ala Glu
50 55 60
Gly Lys Val Val Cys Ser Ser Leu Glu Leu Ala Gln Val Leu Pro
65 70 75
Pro Asp Thr Leu Pro Asn Arg Thr Val Thr Leu Ile Leu Ser Asn
80 85 90

Asn Lys Ile Ser Glu Leu Lys Asn Gly Ser Phe Ser Gly Leu Ser
 95 100 105
 Leu Leu Glu Arg Leu Asp Leu Arg Asn Asn Leu Ile Ser Ser Ile
 110 115 120
 Asp Pro Gly Ala Phe Trp Gly Leu Ser Ser Leu Lys Arg Leu Asp
 125 130 135
 Leu Thr Asn Asn Arg Ile Gly Cys Leu Asn Ala Asp Ile Phe Arg
 140 145 150
 Gly Leu Thr Asn Leu Val Arg Leu Asn Leu Ser Gly Asn Leu Phe
 155 160 165
 Ser Ser Leu Ser Gln Gly Thr Phe Asp Tyr Leu Ala Ser Leu Arg
 170 175 180
 Ser Leu Glu Phe Gln Thr Glu Tyr Leu Leu Cys Asp Cys Asn Ile
 185 190 195
 Leu Trp Met His Arg Trp Val Lys Glu Lys Asn Ile Thr Val Arg
 200 205 210
 Asp Thr Arg Cys Val Tyr Pro Lys Ser Leu Gln Ala Gln Pro Val
 215 220 225
 Thr Gly Val Lys Gln Glu Leu Leu Thr Cys Asp Pro Pro Leu Glu
 230 235 240
 Leu Pro Ser Phe Tyr Met Thr Pro Ser His Arg Gln Val Val Phe
 245 250 255
 Glu Gly Asp Ser Leu Pro Phe Gln Cys Met Ala Ser Tyr Ile Asp
 260 265 270
 Gln Asp Met Gln Val Leu Trp Tyr Gln Asp Gly Arg Ile Val Glu
 275 280 285
 Thr Asp Glu Ser Gln Gly Ile Phe Val Glu Lys Asn Met Ile His
 290 295 300
 Asn Cys Ser Leu Ile Ala Ser Ala Leu Thr Ile Ser Asn Ile Gln
 305 310 315
 Ala Gly Ser Thr Gly Asn Trp Gly Cys His Val Gln Thr Lys Arg
 320 325 330
 Gly Asn Asn Thr Arg Thr Val Asp Ile Val Val Leu Glu Ser Ser
 335 340 345
 Ala Gln Tyr Cys Pro Pro Glu Arg Val Val Asn Asn Lys Gly Asp
 350 355 360
 Phe Arg Trp Pro Arg Thr Leu Ala Gly Ile Thr Ala Tyr Leu Gln
 365 370 375
 Cys Thr Arg Asn Thr His Gly Ser Gly Ile Tyr Pro Gly Asn Pro

380 385 390

Gln Asp Glu Arg Lys Ala Trp Arg Arg Cys Asp Arg Gly Gly Phe
 395 400 405

Trp Ala Asp Asp Asp Tyr Ser Arg Cys Gln Tyr Ala Asn Asp Val
 410 415 420

Thr Arg Val Leu Tyr Met Phe Asn Gln Met Pro Leu Asn Leu Thr
 425 430 435

Asn Ala Val Ala Thr Ala Arg Gln Leu Leu Ala Tyr Thr Val Glu
 440 445 450

Ala Ala Asn Phe Ser Asp Lys Met Asp Val Ile Phe Val Ala Glu
 455 460 465

Met Ile Glu Lys Phe Gly Arg Phe Thr Lys Glu Glu Lys Ser Lys
 470 475 480

Glu Leu Gly Asp Val Met Val Asp Ile Ala Ser Asn Ile Met Leu
 485 490 495

Ala Asp Glu Arg Val Leu Trp Leu Ala Gln Arg Glu Ala Lys Ala
 500 505 510

Cys Ser Arg Ile Val Gln Cys Leu Gln Arg Ile Ala Thr Tyr Arg
 515 520 525

Leu Ala Gly Gly Ala His Val Tyr Ser Thr Tyr Ser Pro Asn Ile
 530 535 540

Ala Leu Glu Ala Tyr Val Ile Lys Ser Thr Gly Phe Thr Gly Met
 545 550 555

Thr Cys Thr Val Phe Gln Lys Val Ala Ala Ser Asp Arg Thr Gly
 560 565 570

Leu Ser Asp Tyr Gly Arg Arg Asp Pro Glu Gly Asn Leu Asp Lys
 575 580 585

Gln Leu Ser Phe Lys Cys Asn Val Ser Asn Thr Phe Ser Ser Leu
 590 595 600

Ala Leu Lys Val Cys Tyr Ile Leu Gln Ser Phe Lys Thr Ile Tyr
 605 610 615

Ser

<210> 25
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24

<223> Synthetic construct

<400> 25
gaggactcac caatctggtt cggc 24

<210> 26
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 26
aactggaaag gaaggctgtc tccc 24

<210> 27
<211> 50
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.

<400> 27
gtaaaaggaga agaacatcac ggtacgggat accaggtgt tttatcctaa 50

<210> 28
<211> 683
<212> DNA
<213> Homo sapiens

<400> 28
gcgtgggat gtctaggagc tcgaagggtgg tgctggcct ctcggtgctg 50
ctgacggcgg ccacagtggc cggcgatcat gtgaagcagc agtggacca 100
gcagaggctt cgtgacggag ttatcagaga cattgagagg caaattcgg 150
aaaaagaaaa cattcgtctt ttgggagaac agattattt gactgagcaa 200
cttgaagcag aaagagagaa gatgttattt gcaaaaaggat ctcaaaaatc 250
atgacttgaa tgtgaaatat ctgttggaca gacaacacga gtttgtgt 300
gtgtgttgat ggagagtagc ttagtagtat cttcatctt tttttggc 350
actgtccctt taaacttgat caaataaagg acagtggtc atataagtta 400
ctgctttcag ggtcccttat atctgaataa aggagtgtgg gcagacactt 450
tttggaaagag tctgtctggg tgatcctggt agaagccccca ttagggtcac 500
tgtccagtgc ttagggttgt tactgagaag cactgccgag cttgtgagaa 550

ggaagggatg gatacttagca tccacctgag tagtctgatc agtcggcatg 600
atgacgaagc cacgagaaca tcgacacctg aaggactgga ggaaggtgaa 650
gtggagggag agacgctcct gatcgctgaa tcc 683

<210> 29
<211> 81
<212> PRT
<213> Homo sapiens

<220>
<221> sig_peptide
<222> 1-21
<223> Signal peptide.

<400> 29
Met Ser Arg Ser Ser Lys Val Val Leu Gly Leu Ser Val Leu Leu
1 5 10 15
Thr Ala Ala Thr Val Ala Gly Val His Val Lys Gln Gln Trp Asp
20 25 30
Gln Gln Arg Leu Arg Asp Gly Val Ile Arg Asp Ile Glu Arg Gln
35 40 45
Ile Arg Lys Lys Glu Asn Ile Arg Leu Leu Gly Glu Gln Ile Ile
50 55 60
Leu Thr Glu Gln Leu Glu Ala Glu Arg Glu Lys Met Leu Leu Ala
65 70 75
Lys Gly Ser Gln Lys Ser
80

<210> 30
<211> 2128
<212> DNA
<213> Homo sapiens

<400> 30
ctgtcgtctt tgcttcagcc gcagtcgcca ctggctgcct gaggtgctct 50
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tccgtggatt cctctgctaa gaccgctgcc atgccagtga cggttaacccg 150
caccaccatc acaaccacca cgacgtcatc ttccggccctg gggccccca 200
tgatcgtggg gtcccccctcg gcccgtac acgacac agccccctggg tctccttcgc 250
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ataaaaaaac atatatataat atatattgg aggtcagtaa tttccaatgg 1950
gcgggaggca ttaagcaccg accctgggtc cctaggcccc gcctggcact 2000
cagccttgcc agagattggc tccagaattt ttgccaggt tacagaacac 2050
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cccaactatt ctctgtggta tgaaaaag 2128

<210> 31
<211> 322
<212> PRT
<213> Homo sapiens

<400> 31
Met Pro Val Thr Val Thr Arg Thr Thr Ile Thr Thr Thr Thr Thr
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Ser Ser Ser Gly Leu Gly Ser Pro Met Ile Val Gly Ser Pro Arg
20 25 30
Ala Leu Thr Gln Pro Leu Gly Leu Leu Arg Leu Leu Gln Leu Val
35 40 45
Ser Thr Cys Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp
50 55 60
Thr Gly Ser Met Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys
65 70 75
Phe Ser Val Thr Leu Ile Ile Leu Ile Val Glu Leu Cys Gly Leu
80 85 90
Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe Pro Ile Thr Phe
95 100 105
Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser Ile Ile Tyr
110 115 120
Pro Thr Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser Arg Asp
125 130 135
His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val Ala
140 145 150
Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala Arg Pro Gly Glu Ile
155 160 165
Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu Lys Val Leu Glu
170 175 180
Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser Asp Pro Asn
185 190 195
Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala Val Tyr
200 205 210

Ala Ile Cys Phe Ile Leu Ala Ala Ile Ala Ile Leu Leu Asn Leu
 215 220 225
 Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu
 230 235 240
 Ser Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr Ala Leu
 245 250 255
 Val Leu Trp Pro Leu Tyr Gln Phe Asp Glu Lys Tyr Gly Gly Gln
 260 265 270
 Pro Arg Arg Ser Arg Asp Val Ser Cys Ser Arg Ser His Ala Tyr
 275 280 285
 Tyr Val Cys Ala Trp Asp Arg Arg Leu Ala Val Ala Ile Leu Thr
 290 295 300
 Ala Ile Asn Leu Leu Ala Tyr Val Ala Asp Leu Val His Ser Ala
 305 310 315
 His Leu Val Phe Val Lys Val
 320

<210> 32
 <211> 3680
 <212> DNA
 <213> Homo sapiens

<400> 32
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 ctggccagcc tatgcatttt taagaaatta ttctgtatta ggtgctgtgc 200
 taaacattgg gcactacagt gaccaaaaaca gactgaattc cccaaagagcc 250
 aaagaccagt gagggagacc aacaagaaac aggaaatgca aaagagagcca 300
 ttattactca ctatgactaa gggtcacaaa tgggtacgt tgatggagag 350
 tgatttgtta agagactaca gagggaggac agactaccaa gagggggggcc 400
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 aaggggcaatg gcagtagcag tagaaaggac aggtagggag cagggacttt 650
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2001-2009

gggagaattg atggtaatgc tgaggtttg agccaggcta gatggacag 750
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agaagtcctg gatgccacac tcttcttcct tcctcctctt ccctcctc 950
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gcgtgagct gcttctcgcc aaactgcccc ccagccggga aagtgccttc 2150

cgcagcctgg gcccactgga ggcccaggac tcactctaca actcgccct 2200
cacagagtcc tgccttccc ccgcggagga ggagccagcc ccctgcaagg 2250
actgccagcc actctgccca ccactaacgg gcagctggga acggcagcgg 2300
caaggctctg acctggcctc ttctgggtg gtgtccttag atgaggatga 2350
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tccccggct gctgccaggg gcagagcctc tgtgcccaga tggtggctca 2450
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tctccgttgt gtgtttgca tgaaagtgtt tggagaggag gcaggggctg 2550
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ccggggcctc tggggcatgg ctacagctgt ggcagacagt gatgttcatg 2650
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cgagtccatg tgcagtgtttt gatagaatca cccccacctg gaggggctgg 2850
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tgccacagag ctgggacttc atgttcttct agagagggcc acaagagggc 3250
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ccccccccca gccagggtgt taatgcccac gtatggagg cctctggcag 3450
atcctgcatt ccaaggtcac tggactgtac gtttttatgg ttgtggaaag 3500
ggtgggtggc tttagaatta agggccttgtt aggcttggc aggttaagagg 3550
gccccaggta agaacgagag ccaacggca caagcattct atatataagt 3600

ggctcattag gtgtttat ttgttctattt aagaatttgtt tttattaaat 3650
taatataaaa atctttgtaa atctctaaaa 3680

<210> 33
<211> 335
<212> PRT
<213> Homo sapiens

<400> 33
Met Phe Leu Ala Thr Leu Ser Phe Leu Leu Pro Phe Ala His Pro
1 5 10 15
Phe Gly Thr Val Ser Cys Glu Tyr Met Leu Gly Ser Pro Leu Ser
20 25 30
Ser Leu Ala Gln Val Asn Leu Ser Pro Phe Ser His Pro Lys Val
35 40 45
His Met Asp Pro Asn Tyr Cys His Pro Ser Thr Ser Leu His Leu
50 55 60
Cys Ser Leu Ala Trp Ser Phe Thr Arg Leu Leu His Pro Pro Leu
65 70 75
Ser Pro Gly Ile Ser Gln Val Val Lys Asp His Val Thr Lys Pro
80 85 90
Thr Ala Met Ala Gln Gly Arg Val Ala His Leu Ile Glu Trp Lys
95 100 105
Gly Trp Ser Lys Pro Ser Asp Ser Pro Ala Ala Leu Glu Ser Ala
110 115 120
Phe Ser Ser Tyr Ser Asp Leu Ser Glu Gly Glu Gln Glu Ala Arg
125 130 135
Phe Ala Ala Gly Val Ala Glu Gln Phe Ala Ile Ala Glu Ala Lys
140 145 150
Leu Arg Ala Trp Ser Ser Val Asp Gly Glu Asp Ser Thr Asp Asp
155 160 165
Ser Tyr Asp Glu Asp Phe Ala Gly Gly Met Asp Thr Asp Met Ala
170 175 180
Gly Gln Leu Pro Leu Gly Pro His Leu Gln Asp Leu Phe Thr Gly
185 190 195
His Arg Phe Ser Arg Pro Val Arg Gln Gly Ser Val Glu Pro Glu
200 205 210
Ser Asp Cys Ser Gln Thr Val Ser Pro Asp Thr Leu Cys Ser Ser
215 220 225
Leu Cys Ser Leu Glu Asp Gly Leu Leu Gly Ser Pro Ala Arg Leu
230 235 240

Ala Ser Gln Leu Leu Gly Asp Glu Leu Leu Leu Ala Lys Leu Pro
245 250 255

Pro Ser Arg Glu Ser Ala Phe Arg Ser Leu Gly Pro Leu Glu Ala
260 265 270

Gln Asp Ser Leu Tyr Asn Ser Pro Leu Thr Glu Ser Cys Leu Ser
275 280 285

Pro Ala Glu Glu Glu Pro Ala Pro Cys Lys Asp Cys Gln Pro Leu
290 295 300

Cys Pro Pro Leu Thr Gly Ser Trp Glu Arg Gln Arg Gln Ala Ser
305 310 315

Asp Leu Ala Ser Ser Gly Val Val Ser Leu Asp Glu Asp Glu Ala
320 325 330

Glu Pro Glu Glu Gln
335

<210> 34
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct

<400> 34
tgtccttgc cccagacttc tgtcc 25

<210> 35
<211> 50
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.

<400> 35
ctggatgcta atgtgtccag taaatgatcc ccttatcccc tcgcgatgct 50

<210> 36
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.

<400> 36

ttccactcaa tgaggtgagc cactc 25
<210> 37
<211> 23
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-23
<223> Synthetic construct.

<400> 37
ggcgagccct aactatccag gag 23

<210> 38
<211> 39
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-39
<223> Synthetic construct.

<400> 38
ggagatcgct gcgctggcca ggtcctccct gcatggtat 39

<210> 39
<211> 22
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-22
<223> Synthetic construct.

<400> 39
ctgctgcaaa gcgagcctct tg 22

<210> 40
<211> 2084
<212> DNA
<213> Homo sapiens

<400> 40
ggttcctggg cgctctgtta cacaaggcaag atacagccag ccccacctaa 50
ttttgttcc ctggcacccct cctgctcagt ggcacattgt cacacttaac 100
ccatctgttt tctctaattgc acgacagatt cctttcagac aggacaactg 150
tgatatttca gttcctgatt gtaaataacct cctaaggctg aagcttctgt 200
tactagccat tgtgagcttc agtttcttca tctgcaaaaat gggcataata 250
caatctattc ttgccacatc aaggattgt tattccttta aaaaaaaaaacc 300

aataccaaag aagcctacaa tgttggcctt agccaaaatt ctgttgattt 350
caacgttgtt ttattcactt ctatcgaaaa gccatggaaa agaaaatcaa 400
gacataaaaca caacacagaa cattgcagaa gtttttaaaa caatggaaaa 450
taaacctatt tctttggaaa gtgaagcaaa cttaaactca gataaagaaa 500
atataaccac ctcaaatttc aaggcgagtc attccccctcc tttgaatcta 550
cccaacaaca gccacggaat aacagatttc tccagtaact catcagcaga 600
gcattcttg ggcagtctaa aaccacatc taccatttcc acaagccctc 650
ccttgatcca tagctttgtt tctaaagtgc cttggaatgc acctatagca 700
gatgaagatc ttttgcacat ctcagcacat cccaatgcta cacctgctct 750
gtcttcagaa aacttcactt ggtctttgggt caatgacacc gtggaaactc 800
ctgataacag ttccattaca gttagcatcc tctcttcaga accaacttct 850
ccatctgtga ccccccttgc agtggAACCA agtggatggc ttaccacaaa 900
cagtgatagc ttcaactgggt ttaccctta tcaagaaaaa acaactctac 950
agcctacctt aaaattcacc aataattcaa aactcttcc aaatacgtca 1000
gatccccaaa aagaaaaatag aaatacagga atagtattcg gggccatttt 1050
aggtgctatt ctgggtgtct cattgcttac tcttggatggc tacttggatgt 1100
gtggaaaaag gaaaacggat tcattttccc atcggcgact ttatgacgac 1150
agaaatgaac cagttctgcg attagacaat gcaccggAACCTT cttatgatgt 1200
gagttttggg aattcttagct actacaatcc aactttgaat gattcagcca 1250
tgccagaaag tgaagaaaat gcacgtgatg gcattcctat ggatgacata 1300
cctccacttc gtacttctgt atagaactaa cagaaaaag gcgttaaaca 1350
gcaagtgtca tctacatcct agcctttga caaattcatc tttcaaaagg 1400
ttacacaaaa ttactgtcac gtggatTTG tcaaggagaa tcataaaAGC 1450
aggagaccag tagcagaaat gtagacagga tgtatcatcc aaaggTTTC 1500
tttcttacaa tttttggcca tcctgaggca tttactaagt agccttaatt 1550
tgtatTTAG tagtattttc ttagtagaaa atatttgatgg aatcagataa 1600
aactaaaaAGA tttcaccatt acagccctgc ctcataacta aataataaaa 1650
attattccac caaaaaattc taaaaacaatg aagatgactc tttactgctc 1700
tgcctgaagc cctagtagacca taattcaaga ttgcattttc ttaaatgaaa 1750

attgaaaggg tgcttttaa agaaaatttgc acttaaagct aaaaagagga 1800
catagccag agtttctgtt attggaaat tgaggcaata gaaatgacag 1850
acctgtattc tagtacgtta taattttcta gatcagcaca cacatgatca 1900
gcccaactgag ttatgaagct gacaatgact gcattcaacg gggccatggc 1950
aggaaagctg accctaccca ggaaagtaat agttcttta aaagtcttca 2000
aaggttttgga aatttttaac ttgtcttaat atatcttagg cttcaatttat 2050
ttgggtgcct taaaaactca atgagaatca tggt 2084

<210> 41
<211> 334
<212> PRT
<213> Homo sapiens

<400> 41
Met Leu Ala Leu Ala Lys Ile Leu Leu Ile Ser Thr Leu Phe Tyr
1 5 10 15
Ser Leu Leu Ser Gly Ser His Gly Lys Glu Asn Gln Asp Ile Asn
20 25 30
Thr Thr Gln Asn Ile Ala Glu Val Phe Lys Thr Met Glu Asn Lys
35 40 45
Pro Ile Ser Leu Glu Ser Glu Ala Asn Leu Asn Ser Asp Lys Glu
50 55 60
Asn Ile Thr Thr Ser Asn Leu Lys Ala Ser His Ser Pro Pro Leu
65 70 75
Asn Leu Pro Asn Asn Ser His Gly Ile Thr Asp Phe Ser Ser Asn
80 85 90
Ser Ser Ala Glu His Ser Leu Gly Ser Leu Lys Pro Thr Ser Thr
95 100 105
Ile Ser Thr Ser Pro Pro Leu Ile His Ser Phe Val Ser Lys Val
110 115 120
Pro Trp Asn Ala Pro Ile Ala Asp Glu Asp Leu Leu Pro Ile Ser
125 130 135
Ala His Pro Asn Ala Thr Pro Ala Leu Ser Ser Glu Asn Phe Thr
140 145 150
Trp Ser Leu Val Asn Asp Thr Val Lys Thr Pro Asp Asn Ser Ser
155 160 165
Ile Thr Val Ser Ile Leu Ser Ser Glu Pro Thr Ser Pro Ser Val
170 175 180
Thr Pro Leu Ile Val Glu Pro Ser Gly Trp Leu Thr Thr Asn Ser
185 190 195

Asp Ser Phe Thr Gly Phe Thr Pro Tyr Gln Glu Lys Thr Thr Leu
200 205 210

Gln Pro Thr Leu Lys Phe Thr Asn Asn Ser Lys Leu Phe Pro Asn
215 220 225

Thr Ser Asp Pro Gln Lys Glu Asn Arg Asn Thr Gly Ile Val Phe
230 235 240

Gly Ala Ile Leu Gly Ala Ile Leu Gly Val Ser Leu Leu Thr Leu
245 250 255

Val Gly Tyr Leu Leu Cys Gly Lys Arg Lys Thr Asp Ser Phe Ser
260 265 270

His Arg Arg Leu Tyr Asp Asp Arg Asn Glu Pro Val Leu Arg Leu
275 280 285

Asp Asn Ala Pro Glu Pro Tyr Asp Val Ser Phe Gly Asn Ser Ser
290 295 300

Tyr Tyr Asn Pro Thr Leu Asn Asp Ser Ala Met Pro Glu Ser Glu
305 310 315

Glu Asn Ala Arg Asp Gly Ile Pro Met Asp Asp Ile Pro Pro Leu
320 325 330

Arg Thr Ser Val

<210> 42
<211> 1594
<212> DNA
<213> Homo sapiens

<400> 42
aacaggatct cctcttgcag tctgcagccc aggacgctga ttccagcagc 50
gccttaccgc gcagccccaa gattcactat ggtgaaaatc gccttcaata 100
ccccttaccgc cgtgcaaaag gaggaggcgc ggcaagacgt ggaggccctc 150
ctgagccgca cggtcagaac tcagatactg accggcaagg agctccgagt 200
tgccacccag gaaaaagagg gtcctctgg gagatgtatg cttaactct 250
taggccttc attcatcttgcaggactta ttgttggtgg agcctgcatt 300
tacaagtact tcatgcccaa gagcaccatt taccgtggag agatgtgctt 350
ttttgattct gaggatcctg caaattccct tcgtggagga gagcctaact 400
tcctgcctgt gactgaggag gctgacattc gtgaggatga caacattgca 450
atcattgatg tgcctgtccc cagtttctct gatagtgacc ctgcagcaat 500
tattcatgac tttgaaaagg gaatgactgc ttacctggac ttgttgctgg 550

ggaactgcta tctgatgcc ctcaatactt ctattgttat gcctccaaaa 600
aatctggtag agctcttgg caaactggcg agtggcagat atctgcctca 650
aacttatgtg gttcgagaag acctagttgc tgtggaggaa attcgtgatg 700
ttagtaacct tggcatctt atttaccaac tttgcaataa cagaaagtcc 750
ttccgccttc gtcgcagaga cctcttgctg gtttcaaca aacgtccat 800
tgataaatgc tggaagatta gacacttccc caacgaattt attgttgaga 850
ccaagatctg tcaagagtaa gaggcaacag atagagtgtc cttggtaata 900
agaagtcaga gatttacaat atgactttaa cattaaggtt tatggatac 950
tcaagatatt tactcatgca tttactctat tgcttatgct taaaaaaaaag 1000
aaaaaaaaaaa aaaactacta accactgcaa gctcttgtca aattttagtt 1050
taattggcat tgcttgaaaa ttgaaactga aattacatga gtttcatttt 1100
ttcttgcattt ttatagggtt tagatttctg aaagcagcat gaatatatca 1150
cctaacatcc tgacaataaa ttccatccgt tgttttttt gttgtttgt 1200
tttttctttt ccttaagta agctctttat tcattttatg gtggagcaat 1250
tttaaaattt gaaatatttt aaattgtttt tgaactttt gtgtaaaata 1300
tatcagatct caacattgtt gttttttt gtttttcatt ttgtacaact 1350
ttcttgaatt tagaaattac atcttgcag ttctgttagg tgctctgtaa 1400
ttaacctgac ttatatgtga acaattttca tgagacagtc atttttaact 1450
aatgcagtga ttctttctca ctactatctg tattgtggaa tgcacaaaat 1500
tgttaggtg ctgaatgctg taaggagttt aggttgtatg aattctacaa 1550
ccctataata aattttactc tataaaaaaa aaaaaaaaaa aaaa 1594

<210> 43
<211> 263
<212> PRT
<213> Homo sapiens

<400> 43
Met Val Lys Ile Ala Phe Asn Thr Pro Thr Ala Val Gln Lys Glu
1 5 10 15
Glu Ala Arg Gln Asp Val Glu Ala Leu Leu Ser Arg Thr Val Arg
20 25 30
Thr Gln Ile Leu Thr Gly Lys Glu Leu Arg Val Ala Thr Gln Glu
35 40 45
Lys Glu Gly Ser Ser Gly Arg Cys Met Leu Thr Leu Leu Gly Leu

| 50 | 55 | 60 |
|---|-----|-----|
| Ser Phe Ile Leu Ala Gly Leu Ile Val Gly Gly Ala Cys Ile Tyr | | |
| 65 | 70 | 75 |
| Lys Tyr Phe Met Pro Lys Ser Thr Ile Tyr Arg Gly Glu Met Cys | | |
| 80 | 85 | 90 |
| Phe Phe Asp Ser Glu Asp Pro Ala Asn Ser Leu Arg Gly Gly Glu | | |
| 95 | 100 | 105 |
| Pro Asn Phe Leu Pro Val Thr Glu Glu Ala Asp Ile Arg Glu Asp | | |
| 110 | 115 | 120 |
| Asp Asn Ile Ala Ile Ile Asp Val Pro Val Pro Ser Phe Ser Asp | | |
| 125 | 130 | 135 |
| Ser Asp Pro Ala Ala Ile Ile His Asp Phe Glu Lys Gly Met Thr | | |
| 140 | 145 | 150 |
| Ala Tyr Leu Asp Leu Leu Leu Gly Asn Cys Tyr Leu Met Pro Leu | | |
| 155 | 160 | 165 |
| Asn Thr Ser Ile Val Met Pro Pro Lys Asn Leu Val Glu Leu Phe | | |
| 170 | 175 | 180 |
| Gly Lys Leu Ala Ser Gly Arg Tyr Leu Pro Gln Thr Tyr Val Val | | |
| 185 | 190 | 195 |
| Arg Glu Asp Leu Val Ala Val Glu Glu Ile Arg Asp Val Ser Asn | | |
| 200 | 205 | 210 |
| Leu Gly Ile Phe Ile Tyr Gln Leu Cys Asn Asn Arg Lys Ser Phe | | |
| 215 | 220 | 225 |
| Arg Leu Arg Arg Arg Asp Leu Leu Leu Gly Phe Asn Lys Arg Ala | | |
| 230 | 235 | 240 |
| Ile Asp Lys Cys Trp Lys Ile Arg His Phe Pro Asn Glu Phe Ile | | |
| 245 | 250 | 255 |
| Val Glu Thr Lys Ile Cys Gln Glu | | |
| 260 | | |

<210> 44
 <211> 24
 <212> DNA
 <213> Artificial

<220>
 <221> Artificial sequence
 <222> 1-24
 <223> Synthetic construct.

<400> 44
 gaaagacacg acacagcagc ttgc 24

<210> 45

<211> 20
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-20
<223> Synthetic construct.

<400> 45
g g g a a c t g c t a t c t g a t g c c 20

<210> 46
<211> 26
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.

<400> 46
c a g g a t c t c c t c t t g c a g t c t g c a g c 26

<210> 47
<211> 28
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-28
<223> Synthetic construct.

<400> 47
c t t c t c g a a c c a c a t a a g t t t g a g g c a g 28

<210> 48
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.

<400> 48
c a c g a t t c c c t c c a c a g c a a c t g g g 25

<210> 49
<211> 1969
<212> DNA
<213> Homo sapiens

<400> 49
g g a g g a g g g a g g g c g g c a g c c c a g a g c a g c c c 50

1001011111111111

cacggactct ctcttccagc ccaggtgccccc cccactctcg ctccattcgg 100
cgggagcacc cagtcctgtcg cgccaaggaa ctggtcctgg gggcaccatg 150
gtttcggcgg cagccccag cctcctcatc cttctgttgc tgctgctggg 200
gtctgtgcct gctaccgacg cccgctctgt gcccctgaag gccacgttcc 250
tgaggatgt ggccggtagt ggggaggccg agggctcgcc ggcctcctcc 300
ccgagcctcc cgccaccctg gaccccgccct ctcagccca catcgatggg 350
cccccagccc acaaccctgg ggggccccatc acccccccacc aacttcctgg 400
atggatagt ggacttcttc cgccagtacg tcatgtctat tgctgtggg 450
ggctccctgg ctttctgtct gatgttcatc gtctgtgccg cggtcatcac 500
ccggcagaag cagaaggcct cgccctatta cccatcgcc ttcccaaga 550
agaagtacgt ggaccagagt gaccgggccc ggggccccccg ggccttcaagt 600
gaggtccccg acagagcccc cgacagcagg cccgaggaag ccctggattc 650
ctcccgccag ctccaggccc acatcttggc cgccaccctg aacctcaagt 700
cccccaccag ggctgcactg ggcgggtggg acggagccag gatgggtggag 750
ggcaggggccc cagaggaaga ggagaaggc agccaggagg gggaccagga 800
agtccaggga catggggtcc cagtggagac accagaggcg caggaggagc 850
cgtgctcagg ggtccttggg gggctgtgg tggccggta gggccaagg 900
gagctggaag ggtctctttt gttagccctg gaagcccagg gaccagtggg 950
tccccccgaa agccctgtg cttgcagcag tgtccacccc agtgtctaacc 1000
agtccctcccg ggctgccagc cctgactgtc gggcccccac gtggcacct 1050
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cttggcctcc ctgtggtgcc aatcccagca tgtgctgatt ctacagcagg 1150
cagaaatgct ggtccccggt gccccggagg aatcttacca agtgcacca 1200
tccttcaccc cagcagcccc aaagggtac atcctacagc acagctcccc 1250
tgacaaagtg agggagggca cgtgctcctg tgacagccag gataaaacat 1300
cccccaaagt gctgggatta caggcgtgag ccaccgtgcc cggcccaaacc 1350
tacttttaa aacagctaca gggtaaaatc ctgcagcacc cactctggaa 1400
aatactgctc ttaattttcc tgaaggtggc cccctgttcc tagttggtcc 1450
aggatttaggg atgtgggta tagggcattt aaatcctctc aagcgctctc 1500

caagcacccc cggcctgggg gtgagttct catcccgcta ctgctgctgg 1550
gatcagggtt aatgaatgga actttcctg tctggcctcc aaagcagcct 1600
agaagctgag gggctgtgt tgaggggacc tccaccctgg ggaagtccga 1650
ggggctgggg aagggtttct gacgcccagc ctggagcagg gggccctgg 1700
ccacccctg ttgctcacac attgtctggc agcctgtgtc cacaatattc 1750
gtcagtcctc gacagggagc ctgggctccg tcctgctta gggaggctct 1800
ggcaggaggt cctctcccc atccctccat ctggggctcc cccaacctct 1850
gcacagctct ccaggtgctg agatataatg caccagcaca ataaaccttt 1900
attccggcct gaaaaaaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa 1950
aaaaaaaaaaa aaaaaaaga 1969

<210> 50
<211> 283
<212> PRT
<213> Homo sapiens

<400> 50
Met Val Ser Ala Ala Ala Pro Ser Leu Leu Ile Leu Leu Leu
1 5 10 15
Leu Leu Gly Ser Val Pro Ala Thr Asp Ala Arg Ser Val Pro Leu
20 25 30
Lys Ala Thr Phe Leu Glu Asp Val Ala Gly Ser Gly Glu Ala Glu
35 40 45
Gly Ser Ser Ala Ser Ser Pro Ser Leu Pro Pro Pro Trp Thr Pro
50 55 60
Ala Leu Ser Pro Thr Ser Met Gly Pro Gln Pro Thr Thr Leu Gly
65 70 75
Gly Pro Ser Pro Pro Thr Asn Phe Leu Asp Gly Ile Val Asp Phe
80 85 90
Phe Arg Gln Tyr Val Met Leu Ile Ala Val Val Gly Ser Leu Ala
95 100 105
Phe Leu Leu Met Phe Ile Val Cys Ala Ala Val Ile Thr Arg Gln
110 115 120
Lys Gln Lys Ala Ser Ala Tyr Tyr Pro Ser Ser Phe Pro Lys Lys
125 130 135
Lys Tyr Val Asp Gln Ser Asp Arg Ala Gly Gly Pro Arg Ala Phe
140 145 150
Ser Glu Val Pro Asp Arg Ala Pro Asp Ser Arg Pro Glu Glu Ala
155 160 165

Leu Asp Ser Ser Arg Gln Leu Gln Ala Asp Ile Leu Ala Ala Thr
170 175 180

Gln Asn Leu Lys Ser Pro Thr Arg Ala Ala Leu Gly Gly Gly Asp
185 190 195

Gly Ala Arg Met Val Glu Gly Arg Gly Ala Glu Glu Glu Glu Lys
200 205 210

Gly Ser Gln Glu Gly Asp Gln Glu Val Gln Gly His Gly Val Pro
215 220 225

Val Glu Thr Pro Glu Ala Gln Glu Glu Pro Cys Ser Gly Val Leu
230 235 240

Glu Gly Ala Val Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly
245 250 255

Ser Leu Leu Leu Ala Gln Glu Ala Gln Gly Pro Val Gly Pro Pro
260 265 270

Glu Ser Pro Cys Ala Cys Ser Ser Val His Pro Ser Val
275 280

<210> 51
<211> 1734
<212> DNA
<213> Homo sapiens

<400> 51
gtggactctg agaagccag gcagttgagg acaggagaga gaaggctgca 50
gaccagagg gagggaggac agggagtcgg aaggaggagg acagaggagg 100
gcacagagac gcagagcaag ggcggcaagg aggagacctt ggtggagga 150
agacactctg gagagagagg gggctggca gagatgaagt tccagggcc 200
cctggcctgc ctcctgctgg ccctctgcct gggcagtggg gaggtggcc 250
ccctgcagag cggagaggaa agcactggaa caaatattgg ggaggccctt 300
ggacatggcc tgggagacgc cctgagcgaa ggggtggaa aggccattgg 350
caaagaggcc ggaggggcag ctggctctaa agtcagttag gcccattggcc 400
aagggaccag agaagcagtt ggcactggag tcaggcaggt tccaggcttt 450
ggcgcagcag atgctttggg caacagggtc ggggaagcag cccatgctct 500
gggaaacact gggcacgaga ttggcagaca ggcagaagat gtcattcgac 550
acggagcaga tgctgtccgc ggctcctggc agggggtgcc tggccacagt 600
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| Thr | Gly | Thr | Asn | Ile | Gly | Glu | Ala | Leu | Gly | His | Gly | Leu | Gly | Asp |
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| Arg Glu Ala Val Gly Thr Gly Val Arg Gln Val Pro Gly Phe Gly | | |
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| Leu Gly Asn Thr Gly His Glu Ile Gly Arg Gln Ala Glu Asp Val | | |
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| Ile Arg His Gly Ala Asp Ala Val Arg Gly Ser Trp Gln Gly Val | | |
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| Pro Gly His Ser Gly Ala Trp Glu Thr Ser Gly Gly His Gly Ile | | |
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| Phe Gly Ser Gln Gly Gly Leu Gly Gly Gln Gly Gln Gly Asn Pro | | |
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Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly Gly
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Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser
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Pro Gly Met Phe Asn Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser
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<213> Homo sapiens

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| 1 | | 5 | | | | 10 | | | | | 15 | | | |
| Leu | Phe | Gln | Ile | Pro | Thr | Val | Pro | Glu | Asp | Leu | Phe | Phe | Leu | Glu |
| | | 20 | | | | 25 | | | | | | 30 | | |
| Glu | Gly | Pro | Ser | Tyr | Ala | Phe | Glu | Val | Asp | Thr | Val | Ala | Pro | Glu |
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| His | Gly | Leu | Asp | Asn | Ala | Pro | Val | Val | Asp | Gln | Gln | Leu | Leu | Tyr |
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| Thr | Cys | Cys | Pro | Tyr | Ile | Gly | Glu | Leu | Arg | Lys | Leu | Leu | Ala | Ser |
| | 65 | | | | | 70 | | | | | | 75 | | |
| Trp | Val | Ser | Gly | Ser | Ser | Gly | Arg | Ser | Gly | Gly | Phe | Met | Arg | Lys |
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| Ile | Thr | Pro | Thr | Thr | Thr | Ser | Leu | Gly | Ala | Gln | Pro | Ser | Gln | |
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| Val | Thr | Gln | Gly | Glu | Gly | Gly | Asp | Pro | Ala | Gln | Leu | Leu | Glu | |
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生物信息学实验

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| Ile | Val | Ser | Ser | Ser | Ser | His | Leu | Leu | Gly | Thr | Lys | Leu | Gly | Pro |
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| Glu | Ile | Glu | Arg | Ala | Glu | Cys | Thr | Ile | Arg | Met | Asn | Asp | Ala | Pro |
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| Thr | Thr | Gly | Tyr | Ser | Ala | Asp | Val | Gly | Asn | Lys | Thr | Thr | Tyr | Arg |
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| Val | Val | Ala | His | Ser | Ser | Val | Phe | Arg | Val | Leu | Arg | Arg | Pro | Gln |
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| Glu | Phe | Val | Asn | Arg | Thr | Pro | Glu | Thr | Val | Phe | Ile | Phe | Trp | Gly |
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| Pro | Pro | Ser | Lys | Met | Gln | Lys | Pro | Gln | Gly | Ser | Leu | Val | Arg | Val |
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| Glu | Thr | Gly | Lys | Asp | Arg | Glu | Lys | Ser | His | Ser | Trp | Leu | Ser | Thr |
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| His | Val | Tyr | Gly | Met | Val | Pro | Pro | Asn | Tyr | Cys | Ser | Gln | Arg | Pro |
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| Asn | His | His | Arg | Phe | Ile | Thr | Glu | Lys | Arg | Val | Phe | Ser | Ser | Trp |
| | | | | | | | | | | | | | | |
| | | | | 275 | | | | 280 | | | | | | 285 |
| Ala | Gln | Leu | Tyr | Gly | Ile | Thr | Phe | Ser | His | Pro | Ser | Trp | Thr | |
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<211> 4277
<212> DNA
<213> Homo sapiens

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gctgtggctg aggaatgtc tgccctcat ctccagccag cgccctccggc 1450

生物多样性

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<210> 58
<211> 1115

<212> PRT

<213> Homo sapiens

<400> 58

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| Met | Leu | Arg | Gly | Thr | Met | Thr | Ala | Trp | Arg | Gly | Met | Arg | Pro | Glu |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |
| Val | Thr | Leu | Ala | Cys | Leu | Leu | Leu | Ala | Thr | Ala | Gly | Cys | Phe | Ala |
| | | | | 20 | | | | | 25 | | | | 30 | |
| Asp | Leu | Asn | Glu | Val | Pro | Gln | Val | Thr | Val | Gln | Pro | Ala | Ser | Thr |
| | | | | | 35 | | | | 40 | | | | 45 | |
| Val | Gln | Lys | Pro | Gly | Gly | Thr | Val | Ile | Leu | Gly | Cys | Val | Val | Glu |
| | | | | 50 | | | | | 55 | | | | 60 | |
| Pro | Pro | Arg | Met | Asn | Val | Thr | Trp | Arg | Leu | Asn | Gly | Lys | Glu | Leu |
| | | | | | 65 | | | | 70 | | | | 75 | |
| Asn | Gly | Ser | Asp | Asp | Ala | Leu | Gly | Val | Leu | Ile | Thr | His | Gly | Thr |
| | | | | | 80 | | | | 85 | | | | 90 | |
| Leu | Val | Ile | Thr | Ala | Leu | Asn | Asn | His | Thr | Val | Gly | Arg | Tyr | Gln |
| | | | | | 95 | | | | 100 | | | | 105 | |
| Cys | Val | Ala | Arg | Met | Pro | Ala | Gly | Ala | Val | Ala | Ser | Val | Pro | Ala |
| | | | | | 110 | | | | 115 | | | | 120 | |
| Thr | Val | Thr | Leu | Ala | Asn | Leu | Gln | Asp | Phe | Lys | Leu | Asp | Val | Gln |
| | | | | | 125 | | | | 130 | | | | 135 | |
| His | Val | Ile | Glu | Val | Asp | Glu | Gly | Asn | Thr | Ala | Val | Ile | Ala | Cys |
| | | | | | 140 | | | | 145 | | | | 150 | |
| His | Leu | Pro | Glu | Ser | His | Pro | Lys | Ala | Gln | Val | Arg | Tyr | Ser | Val |
| | | | | | 155 | | | | 160 | | | | 165 | |
| Lys | Gln | Glu | Trp | Leu | Glu | Ala | Ser | Arg | Gly | Asn | Tyr | Leu | Ile | Met |
| | | | | | 170 | | | | 175 | | | | 180 | |
| Pro | Ser | Gly | Asn | Leu | Gln | Ile | Val | Asn | Ala | Ser | Gln | Glu | Asp | Glu |
| | | | | | 185 | | | | 190 | | | | 195 | |
| Gly | Met | Tyr | Lys | Cys | Ala | Ala | Tyr | Asn | Pro | Val | Thr | Gln | Glu | Val |
| | | | | | 200 | | | | 205 | | | | 210 | |
| Lys | Thr | Ser | Gly | Ser | Ser | Asp | Arg | Leu | Arg | Val | Arg | Arg | Ser | Thr |
| | | | | | 215 | | | | 220 | | | | 225 | |
| Ala | Glu | Ala | Ala | Arg | Ile | Ile | Tyr | Pro | Pro | Glu | Ala | Gln | Thr | Ile |
| | | | | | 230 | | | | 235 | | | | 240 | |
| Ile | Val | Thr | Lys | Gly | Gln | Ser | Leu | Ile | Leu | Glu | Cys | Val | Ala | Ser |
| | | | | | 245 | | | | 250 | | | | 255 | |
| Gly | Ile | Pro | Pro | Pro | Arg | Val | Thr | Trp | Ala | Lys | Asp | Gly | Ser | Ser |
| | | | | | 260 | | | | 265 | | | | 270 | |

Val Thr Gly Tyr Asn Lys Thr Arg Phe Leu Leu Ser Asn Leu Leu
 275 280 285
 Ile Asp Thr Thr Ser Glu Glu Asp Ser Gly Thr Tyr Arg Cys Met
 290 295 300
 Ala Asp Asn Gly Val Gly Gln Pro Gly Ala Ala Val Ile Leu Tyr
 305 310 315
 Asn Val Gln Val Phe Glu Pro Pro Glu Val Thr Met Glu Leu Ser
 320 325 330
 Gln Leu Val Ile Pro Trp Gly Gln Ser Ala Lys Leu Thr Cys Glu
 335 340 345
 Val Arg Gly Asn Pro Pro Pro Ser Val Leu Trp Leu Arg Asn Ala
 350 355 360
 Val Pro Leu Ile Ser Ser Gln Arg Leu Arg Leu Ser Arg Arg Ala
 365 370 375
 Leu Arg Val Leu Ser Met Gly Pro Glu Asp Glu Gly Val Tyr Gln
 380 385 390
 Cys Met Ala Glu Asn Glu Val Gly Ser Ala His Ala Val Val Gln
 395 400 405
 Leu Arg Thr Ser Arg Pro Ser Ile Thr Pro Arg Leu Trp Gln Asp
 410 415 420
 Ala Glu Leu Ala Thr Gly Thr Pro Pro Val Ser Pro Ser Lys Leu
 425 430 435
 Gly Asn Pro Glu Gln Met Leu Arg Gly Gln Pro Ala Leu Pro Arg
 440 445 450
 Pro Pro Thr Ser Val Gly Pro Ala Ser Pro Lys Cys Pro Gly Glu
 455 460 465
 Lys Gly Gln Gly Ala Pro Ala Glu Ala Pro Ile Ile Leu Ser Ser
 470 475 480
 Pro Arg Thr Ser Lys Thr Asp Ser Tyr Glu Leu Val Trp Arg Pro
 485 490 495
 Arg His Glu Gly Ser Gly Arg Ala Pro Ile Leu Tyr Tyr Val Val
 500 505 510
 Lys His Arg Lys Gln Val Thr Asn Ser Ser Asp Asp Trp Thr Ile
 515 520 525
 Ser Gly Ile Pro Ala Asn Gln His Arg Leu Thr Leu Thr Arg Leu
 530 535 540
 Asp Pro Gly Ser Leu Tyr Glu Val Glu Met Ala Ala Tyr Asn Cys
 545 550 555
 Ala Gly Glu Gly Gln Thr Ala Met Val Thr Phe Arg Thr Gly Arg

| 560 | 565 | 570 |
|---|---------------------|-----|
| Arg Pro Lys Pro Glu Ile Met Ala Ser Lys | Glu Gln Gln Ile Gln | |
| 575 | 580 | 585 |
| Arg Asp Asp Pro Gly Ala Ser Pro Gln Ser Ser Ser Gln Pro Asp | | |
| 590 | 595 | 600 |
| His Gly Arg Leu Ser Pro Pro Glu Ala Pro Asp Arg Pro Thr Ile | | |
| 605 | 610 | 615 |
| Ser Thr Ala Ser Glu Thr Ser Val Tyr Val Thr Trp Ile Pro Arg | | |
| 620 | 625 | 630 |
| Gly Asn Gly Gly Phe Pro Ile Gln Ser Phe Arg Val Glu Tyr Lys | | |
| 635 | 640 | 645 |
| Lys Leu Lys Lys Val Gly Asp Trp Ile Leu Ala Thr Ser Ala Ile | | |
| 650 | 655 | 660 |
| Pro Pro Ser Arg Leu Ser Val Glu Ile Thr Gly Leu Glu Lys Gly | | |
| 665 | 670 | 675 |
| Thr Ser Tyr Lys Phe Arg Val Arg Ala Leu Asn Met Leu Gly Glu | | |
| 680 | 685 | 690 |
| Ser Glu Pro Ser Ala Pro Ser Arg Pro Tyr Val Val Ser Gly Tyr | | |
| 695 | 700 | 705 |
| Ser Gly Arg Val Tyr Glu Arg Pro Val Ala Gly Pro Tyr Ile Thr | | |
| 710 | 715 | 720 |
| Phe Thr Asp Ala Val Asn Glu Thr Thr Ile Met Leu Lys Trp Met | | |
| 725 | 730 | 735 |
| Tyr Ile Pro Ala Ser Asn Asn Asn Thr Pro Ile His Gly Phe Tyr | | |
| 740 | 745 | 750 |
| Ile Tyr Tyr Arg Pro Thr Asp Ser Asp Asn Asp Ser Asp Tyr Lys | | |
| 755 | 760 | 765 |
| Lys Asp Met Val Glu Gly Asp Lys Tyr Trp His Ser Ile Ser His | | |
| 770 | 775 | 780 |
| Leu Gln Pro Glu Thr Ser Tyr Asp Ile Lys Met Gln Cys Phe Asn | | |
| 785 | 790 | 795 |
| Glu Gly Gly Glu Ser Glu Phe Ser Asn Val Met Ile Cys Glu Thr | | |
| 800 | 805 | 810 |
| Lys Ala Arg Lys Ser Ser Gly Gln Pro Gly Arg Leu Pro Pro Pro | | |
| 815 | 820 | 825 |
| Thr Leu Ala Pro Pro Gln Pro Pro Leu Pro Glu Thr Ile Glu Arg | | |
| 830 | 835 | 840 |
| Pro Val Gly Thr Gly Ala Met Val Ala Arg Ser Ser Asp Leu Pro | | |
| 845 | 850 | 855 |

Tyr Leu Ile Val Gly Val Val Leu Gly Ser Ile Val Leu Ile Ile
 860 865 870
 Val Thr Phe Ile Pro Phe Cys Leu Trp Arg Ala Trp Ser Lys Gln
 875 880 885
 Lys His Thr Thr Asp Leu Gly Phe Pro Arg Ser Ala Leu Pro Pro
 890 895 900
 Ser Cys Pro Tyr Thr Met Val Pro Leu Gly Gly Leu Pro Gly His
 905 910 915
 Gln Ala Ser Gly Gln Pro Tyr Leu Ser Gly Ile Ser Gly Arg Ala
 920 925 930
 Cys Ala Asn Gly Ile His Met Asn Arg Gly Cys Pro Ser Ala Ala
 935 940 945
 Val Gly Tyr Pro Gly Met Lys Pro Gln Gln His Cys Pro Gly Glu
 950 955 960
 Leu Gln Gln Gln Ser Asp Thr Ser Ser Leu Leu Arg Gln Thr His
 965 970 975
 Leu Gly Asn Gly Tyr Asp Pro Gln Ser His Gln Ile Thr Arg Gly
 980 985 990
 Pro Lys Ser Ser Pro Asp Glu Gly Ser Phe Leu Tyr Thr Leu Pro
 995 1000 1005
 Asp Asp Ser Thr His Gln Leu Leu Gln Pro His His Asp Cys Cys
 1010 1015 1020
 Gln Arg Gln Glu Gln Pro Ala Ala Val Gly Gln Ser Gly Val Arg
 1025 1030 1035
 Arg Ala Pro Asp Ser Pro Val Leu Glu Ala Val Trp Asp Pro Pro
 1040 1045 1050
 Phe His Ser Gly Pro Pro Cys Cys Leu Gly Leu Val Pro Val Glu
 1055 1060 1065
 Glu Val Asp Ser Pro Asp Ser Cys Gln Val Ser Gly Gly Asp Trp
 1070 1075 1080
 Cys Pro Gln His Pro Val Gly Ala Tyr Val Gly Gln Glu Pro Gly
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 Met Gln Leu Ser Pro Gly Pro Leu Val Arg Val Ser Phe Glu Thr
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 Pro Pro Leu Thr Ile
 1115

<210> 59
 <211> 25
 <212> DNA
 <213> Artificial

<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.

<400> 59
gggaaacaca gcagtcattg cctgc 25

<210> 60
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-24
<223> Synthetic construct.

<400> 60
gcacacgtag cctgtcgctg gagc 24

<210> 61
<211> 42
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-42
<223> Synthetic construct.

<400> 61
caccccaaag cccaggtccg gtacagcgta aaacaagagt gg 42

<210> 62
<211> 1661
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 678
<223> unknown base

<400> 62
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tgctgctcct gctactgctg ctgctgctgc ggcagccgt aaccgcgcg 200
gagaccacgc cgggcgc 250
cctcttacc accgcgggtg tccccagcgc cctca 300
ctacgccagg cacccccaaa accctggacc ttccgggtcg cgccgaggcc 350

生物信息学实验

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gcccgaggctt ggtcagccctc cgtctcatgc cagtcccagg accagactgc 550
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<210> 63
<211> 487
<212> PRT
<213> Homo sapiens

<220>
 <221> unsure
 <222> 196, 386
 <223> unknown amino acid

<400> 63
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Tyr Leu Arg Arg Leu Leu Leu Leu Leu Leu Leu Leu Leu Arg
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Gln Pro Val Thr Arg Ala Glu Thr Thr Pro Gly Ala Pro Arg Ala
 35 40 45

Leu Ser Thr Leu Gly Ser Pro Ser Leu Phe Thr Thr Pro Gly Val
 50 55 60

Pro Ser Ala Leu Thr Thr Pro Gly Leu Thr Thr Pro Gly Thr Pro
 65 70 75

Lys Thr Leu Asp Leu Arg Gly Arg Ala Gln Ala Leu Met Arg Ser
 80 85 90

Phe Pro Leu Val Asp Gly His Asn Asp Leu Pro Gln Val Leu Arg
 95 100 105

Gln Arg Tyr Lys Asn Val Leu Gln Asp Val Asn Leu Arg Asn Phe
 110 115 120

Ser His Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val
 125 130 135

Gly Ala Gln Phe Trp Ser Ala Ser Val Ser Cys Gln Ser Gln Asp
 140 145 150

Gln Thr Ala Val Arg Leu Ala Leu Glu Gln Ile Asp Leu Ile His
 155 160 165

Arg Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala
 170 175 180

Glu Gly Leu Asn Ser Ser Gln Lys Leu Ala Cys Leu Ile Gly Val
 185 190 195

Xaa Gly Gly His Ser Leu Asp Ser Ser Leu Ser Val Leu Arg Ser
 200 205 210

Phe Tyr Val Leu Gly Val Arg Tyr Leu Thr Leu Thr Phe Thr Cys
 215 220 225

Ser Thr Pro Trp Ala Glu Ser Ser Thr Lys Phe Arg His His Met
 230 235 240

Tyr Thr Asn Val Ser Gly Leu Thr Ser Phe Gly Glu Lys Val Val
 245 250 255

Glu Glu Leu Asn Arg Leu Gly Met Met Ile Asp Leu Ser Tyr Ala

| | | | |
|---|-----|-----|-----|
| | 260 | 265 | 270 |
| Ser Asp Thr Leu Ile Arg Arg Val Leu Glu Val Ser Gln Ala Pro | | | |
| 275 | 280 | 285 | |
| Val Ile Phe Ser His Ser Ala Ala Arg Ala Val Cys Asp Asn Leu | | | |
| 290 | 295 | 300 | |
| Leu Asn Val Pro Asp Asp Ile Leu Gln Leu Leu Lys Asn Gly Gly | | | |
| 305 | 310 | 315 | |
| Ile Val Met Val Thr Leu Ser Met Gly Val Leu Gln Cys Asn Leu | | | |
| 320 | 325 | 330 | |
| Leu Ala Asn Val Ser Thr Val Ala Asp His Phe Asp His Ile Arg | | | |
| 335 | 340 | 345 | |
| Ala Val Ile Gly Ser Glu Phe Ile Gly Ile Gly Gly Asn Tyr Asp | | | |
| 350 | 355 | 360 | |
| Gly Thr Gly Arg Phe Pro Gln Gly Leu Glu Asp Val Ser Thr Tyr | | | |
| 365 | 370 | 375 | |
| Pro Val Leu Ile Glu Glu Leu Leu Ser Arg Xaa Trp Ser Glu Glu | | | |
| 380 | 385 | 390 | |
| Glu Leu Gln Gly Val Leu Arg Gly Asn Leu Leu Arg Val Phe Arg | | | |
| 395 | 400 | 405 | |
| Gln Val Glu Lys Val Arg Glu Glu Ser Arg Ala Gln Ser Pro Val | | | |
| 410 | 415 | 420 | |
| Glu Ala Glu Phe Pro Tyr Gly Gln Leu Ser Thr Ser Cys His Ser | | | |
| 425 | 430 | 435 | |
| His Leu Val Pro Gln Asn Gly His Gln Ala Thr His Leu Glu Val | | | |
| 440 | 445 | 450 | |
| Thr Lys Gln Pro Thr Asn Arg Val Pro Trp Arg Ser Ser Asn Ala | | | |
| 455 | 460 | 465 | |
| Ser Pro Tyr Leu Val Pro Gly Leu Val Ala Ala Ala Thr Ile Pro | | | |
| 470 | 475 | 480 | |
| Thr Phe Thr Gln Trp Leu Cys | | | |
| 485 | | | |

<210> 64
<211> 25
<212> DNA
<213> Artificial

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<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.

<400> 64

ccttcacctg cagtacacca tggc 25
<210> 65
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.

<400> 65
gtcacacaca gctctggcag ctgag 25

<210> 66
<211> 47
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-47
<223> Synthetic construct.

<400> 66
ccaagttcag acaccacatg tacaccaacg tcagcggatt gacaagc 47

<210> 67
<211> 1564
<212> DNA
<213> Homo sapiens

<400> 67
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cgggtgtttg ctggtgcccc cagctgaagc caacaagagt tctgaagata 200
tccggtgcaa atgcatctgt ccacccctata gaaacatcag tggcacatt 250
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gcccatgccca gtgcctggcc atgacgtgga ggcctactgc ctgctgtgcg 350
agtgcaggta cgaggagcgc agcaccacca ccatcaaggt catcattgtc 400
atctacctgt ccgtggtggttgc tgccctgttg ctctacatgg ctttcctgat 450
gctggtgac cctctgatcc gaaagccgga tgcatacact gagcaactgc 500
acaatgagga ggagaatgag gatgctcgct ctatggcagc agctgctgca 550
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ccagcagcgg tggaaagctgc aggtgcagga gcagcggaaag acagtcttcg 650
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<210> 68
<211> 183
<212> PRT
<213> Homo sapiens

<400> 68
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Cys Ile Cys Pro Pro Tyr Arg Asn Ile Ser Gly His Ile Tyr Asn
35 40 45
Gln Asn Val Ser Gln Lys Asp Cys Asn Cys Leu His Val Val Glu
50 55 60

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Met | Pro | Val | Pro | Gly | His | Asp | Val | Glu | Ala | Tyr | Cys | Leu | Leu |
| | | | | 65 | | | | | 70 | | | | | 75 |
| Cys | Glu | Cys | Arg | Tyr | Glu | Glu | Arg | Ser | Thr | Thr | Thr | Ile | Lys | Val |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Ile | Ile | Val | Ile | Tyr | Leu | Ser | Val | Val | Gly | Ala | Leu | Leu | Leu | Tyr |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Met | Ala | Phe | Leu | Met | Leu | Val | Asp | Pro | Leu | Ile | Arg | Lys | Pro | Asp |
| | | | | 110 | | | | | 115 | | | | | 120 |
| Ala | Tyr | Thr | Glu | Gln | Leu | His | Asn | Glu | Glu | Glu | Asn | Glu | Asp | Ala |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Arg | Ser | Met | Ala | Ala | Ala | Ala | Ser | Leu | Gly | Gly | Pro | Arg | Ala | |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Asn | Thr | Val | Leu | Glu | Arg | Val | Glu | Gly | Ala | Gln | Gln | Arg | Trp | Lys |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Leu | Gln | Val | Gln | Glu | Gln | Arg | Lys | Thr | Val | Phe | Asp | Arg | His | Lys |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Met | Leu | Ser | | | | | | | | | | | | |

<210> 69
<211> 3170
<212> DNA
<213> Homo sapiens

<400> 69
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tcccctttgc a tccccacccc tccgggcttt gcgtcttcct ggggacccccc 200
tcgcggggag atggccgcgt tgatgcggag caaggattcg tcctgctgcc 250
tgctcctact ggcgcgggtg ctgatgggtgg agagctcaca gatcggcagt 300
tcgcggggcca aactcaactc catcaagtcc tctctggcgc gggagacgcc 350
tggtcaggcc gccaatcgat ctgcgggcat gtaccaagga ctggcattcg 400
gcggcagtaa gaaggggcaaa aacctggggc aggctaccc ttgttagcagt 450
gataaggagt gtgaagttgg gaggtattgc cacagtcccc accaaggatc 500
atcggcctgc atggtgtgtc ggagaaaaaa gaagcgcgtgc caccgagatg 550
gcatgtgctg ccccagtacc cgctgcaata atggcatctg tatcccagtt 600
actgaaagca tcttaacccc tcacatcccg gctctggatg gtactcggca 650

cagagatcg aaccacggc attactcaa ccatgactt ggtatggcaga 700
atcttaggaag accacacact aagatgtcac atataaaagg gcatgaagga 750
gaccctgcc tacgatcatc agactgcatt gaagggttt gctgtgctcg 800
tcatttctgg accaaaatct gcaaaccagt gctccatcag ggggaagtct 850
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aaaatactcc tagaataact ttttatacaa taggttctaa aaataaaatt 1450
gctaaacaag aaatgaaaac atggaggcatt gttaaatttac aacagaaaat 1500
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gctaacagag agatcattat ttcttaaaga ttggccataa cctatatttt 1950
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gtccaccctt taaaaattta ttatttgaag taatttattt acaggaaatg 3000
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aaaaaaaaaa aaaaaaaaaa 3170

<210> 70

<211> 259

<212> PRT

<213> Homo sapiens

<400> 70

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Leu | Met | Arg | Ser | Lys | Asp | Ser | Ser | Cys | Cys | Leu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |
| Leu | Leu | Ala | Ala | Val | Leu | Met | Val | Glu | Ser | Ser | Gln | Ile | Gly | Ser |
| | | | | 20 | | | | 25 | | | | 30 | | |
| Ser | Arg | Ala | Lys | Leu | Asn | Ser | Ile | Lys | Ser | Ser | Leu | Gly | Gly | Glu |
| | | | | 35 | | | | 40 | | | | 45 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Gly | Gln | Ala | Ala | Asn | Arg | Ser | Ala | Gly | Met | Tyr | Gln | Gly |
| | | | | 50 | | | | | 55 | | | | 60 | |
| Leu | Ala | Phe | Gly | Gly | Ser | Lys | Lys | Gly | Lys | Asn | Leu | Gly | Gln | Ala |
| | | | | 65 | | | | | 70 | | | | 75 | |
| Tyr | Pro | Cys | Ser | Ser | Asp | Lys | Glu | Cys | Glu | Val | Gly | Arg | Tyr | Cys |
| | | | | 80 | | | | | 85 | | | | 90 | |
| His | Ser | Pro | His | Gln | Gly | Ser | Ser | Ala | Cys | Met | Val | Cys | Arg | Arg |
| | | | | 95 | | | | | 100 | | | | 105 | |
| Lys | Lys | Lys | Arg | Cys | His | Arg | Asp | Gly | Met | Cys | Cys | Pro | Ser | Thr |
| | | | | 110 | | | | | 115 | | | | 120 | |
| Arg | Cys | Asn | Asn | Gly | Ile | Cys | Ile | Pro | Val | Thr | Glu | Ser | Ile | Leu |
| | | | | 125 | | | | | 130 | | | | 135 | |
| Thr | Pro | His | Ile | Pro | Ala | Leu | Asp | Gly | Thr | Arg | His | Arg | Asp | Arg |
| | | | | 140 | | | | | 145 | | | | 150 | |
| Asn | His | Gly | His | Tyr | Ser | Asn | His | Asp | Leu | Gly | Trp | Gln | Asn | Leu |
| | | | | 155 | | | | | 160 | | | | 165 | |
| Gly | Arg | Pro | His | Thr | Lys | Met | Ser | His | Ile | Lys | Gly | His | Glu | Gly |
| | | | | 170 | | | | | 175 | | | | 180 | |
| Asp | Pro | Cys | Leu | Arg | Ser | Ser | Asp | Cys | Ile | Glu | Gly | Phe | Cys | Cys |
| | | | | 185 | | | | | 190 | | | | 195 | |
| Ala | Arg | His | Phe | Trp | Thr | Lys | Ile | Cys | Lys | Pro | Val | Leu | His | Gln |
| | | | | 200 | | | | | 205 | | | | 210 | |
| Gly | Glu | Val | Cys | Thr | Lys | Gln | Arg | Lys | Lys | Gly | Ser | His | Gly | Leu |
| | | | | 215 | | | | | 220 | | | | 225 | |
| Glu | Ile | Phe | Gln | Arg | Cys | Asp | Cys | Ala | Lys | Gly | Leu | Ser | Cys | Lys |
| | | | | 230 | | | | | 235 | | | | 240 | |
| Val | Trp | Lys | Asp | Ala | Thr | Tyr | Ser | Ser | Lys | Ala | Arg | Leu | His | Val |
| | | | | 245 | | | | | 250 | | | | 255 | |
| Cys | Gln | Lys | Ile | | | | | | | | | | | |

<210> 71
<211> 1809
<212> DNA
<213> Homo sapiens

<400> 71
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cttccttta acttcttatg tcagaatgag gaaggatagc tgcattttatt 200

tagtcagttt tcattgcata gtaatatttt catgttagtat tttctaagtt 250
atattttagt aattcatatg ttttagatta taggaaaaaa cataacttgt 300
aaaatacttg atgtgtttta aagccttggg cagaaattct gtattgtga 350
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gtacacagca gaatagtaca agtcacccta caactactac ttcttggac 550
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ctgaaaaga 1809

<210> 72
<211> 363
<212> PRT
<213> Homo sapiens

<400> 72
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Cys Ser Phe Ile Pro Leu Leu Lys Ser Ser Val Leu Gly Ser Gly
20 25 30
Phe Gly Glu Leu Ala Pro Pro Lys Met Ala Asn Ile Thr Ser Ser
35 40 45
Gln Ile Leu Asp Gln Leu Lys Ala Pro Ser Leu Gly Gln Phe Thr
50 55 60
Thr Thr Pro Ser Thr Gln Gln Asn Ser Thr Ser His Pro Thr Thr
65 70 75
Thr Thr Ser Trp Asp Leu Lys Pro Pro Thr Ser Gln Ser Ser Val
80 85 90
Leu Ser His Leu Asp Phe Lys Ser Gln Pro Glu Pro Ser Pro Val
95 100 105
Leu Ser Gln Leu Ser Gln Arg Gln Gln His Gln Ser Gln Ala Val
110 115 120
Thr Val Pro Pro Pro Gly Leu Glu Ser Phe Pro Ser Gln Ala Lys
125 130 135
Leu Arg Glu Ser Thr Pro Gly Asp Ser Pro Ser Thr Val Asn Lys
140 145 150
Leu Leu Gln Leu Pro Ser Thr Thr Ile Glu Asn Ile Ser Val Ser
155 160 165
Val His Gln Pro Gln Pro Lys His Ile Lys Leu Ala Lys Arg Arg
170 175 180
Ile Pro Pro Ala Ser Lys Ile Pro Ala Ser Ala Val Glu Met Pro
185 190 195
Gly Ser Ala Asp Val Thr Gly Leu Asn Val Gln Phe Gly Ala Leu
200 205 210
Glu Phe Gly Ser Glu Pro Ser Leu Ser Glu Phe Gly Ser Ala Pro
215 220 225

Ser Ser Glu Asn Ser Asn Gln Ile Pro Ile Ser Leu Tyr Ser Lys
230 235 240

Ser Leu Ser Glu Pro Leu Asn Thr Ser Leu Ser Met Thr Ser Ala
245 250 255

Val Gln Asn Ser Thr Tyr Thr Ser Val Ile Thr Ser Cys Ser
260 265 270

Leu Thr Ser Ser Ser Leu Asn Ser Ala Ser Pro Val Ala Met Ser
275 280 285

Ser Ser Tyr Asp Gln Ser Ser Val His Asn Arg Ile Pro Tyr Gln
290 295 300

Ser Pro Val Ser Ser Ser Glu Ser Ala Pro Gly Thr Ile Met Asn
305 310 315

Gly His Gly Gly Arg Ser Gln Gln Thr Leu Asp Ser Lys Tyr
320 325 330

Ser Ser Lys Leu Leu Ser Trp Leu Val Pro Thr Lys Gln Arg
335 340 345

Lys Arg Ile Ala His Val Met Trp Lys Thr Pro Val Gly Gln Trp
350 355 360

Leu Ile Arg

<210> 73
<211> 26
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.

<400> 73
aattcatggc aaatatttcc cttccc 26

<210> 74
<211> 22
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-22
<223> Synthetic construct.

<400> 74
tggtaaactg gccccaaactc gg 22

<210> 75
<211> 50

<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-50
<223> Synthetic construct

<400> 75
ttaaagtcat ccgtccttgg ctcaggattt ggagagctt gaccaccaaa 50

<210> 76
<211> 1989
<212> DNA
<213> Homo sapiens

<400> 76
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caccatcact actgccacct ctacgagagc ctggccgtcc gcctggaggt 200
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caataaaagtc cccatctgat ttttaaaaaa aaaaaaaaaa 1989

<210> 77
<211> 341
<212> PRT
<213> Homo sapiens

<400> 77
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20 25 30
Ala Gly Leu Tyr Thr Cys Asn Leu His His His Tyr Cys His Leu
35 40 45
Tyr Glu Ser Leu Ala Val Arg Leu Glu Val Thr Asp Gly Pro Pro
50 55 60
Ala Thr Pro Ala Tyr Trp Asp Gly Glu Lys Glu Val Leu Ala Val
65 70 75

Ala Arg Gly Ala Pro Ala Leu Leu Thr Cys Val Asn Arg Gly His
 80 90
 Val Trp Thr Asp Arg His Val Glu Glu Ala Gln Gln Val Val His
 95 100 105
 Trp Asp Arg Gln Pro Pro Gly Val Pro His Asp Arg Ala Asp Arg
 110 115 120
 Leu Leu Asp Leu Tyr Ala Ser Gly Glu Arg Arg Ala Tyr Gly Pro
 125 130 135
 Leu Phe Leu Arg Asp Arg Val Ala Val Gly Ala Asp Ala Phe Glu
 140 145 150
 Arg Gly Asp Phe Ser Leu Arg Ile Glu Pro Leu Glu Val Ala Asp
 155 160 165
 Glu Gly Thr Tyr Ser Cys His Leu His His Tyr Cys Gly Leu
 170 175 180
 His Glu Arg Arg Val Phe His Leu Thr Val Ala Glu Pro His Ala
 185 190 195
 Glu Pro Pro Pro Arg Gly Ser Pro Gly Asn Gly Ser Ser His Ser
 200 205 210
 Gly Ala Pro Gly Pro Asp Pro Thr Leu Ala Arg Gly His Asn Val
 215 220 225
 Ile Asn Val Ile Val Pro Glu Ser Arg Ala His Phe Phe Gln Gln
 230 235 240
 Leu Gly Tyr Val Leu Ala Thr Leu Leu Leu Phe Ile Leu Leu Leu
 245 250 255
 Val Thr Val Leu Leu Ala Ala Arg Arg Arg Gly Gly Tyr Glu
 260 265 270
 Tyr Ser Asp Gln Lys Ser Gly Lys Ser Lys Gly Lys Asp Val Asn
 275 280 285
 Leu Ala Glu Phe Ala Val Ala Ala Gly Asp Gln Met Leu Tyr Arg
 290 295 300
 Ser Glu Asp Ile Gln Leu Asp Tyr Lys Asn Asn Ile Leu Lys Glu
 305 310 315
 Arg Ala Glu Leu Ala His Ser Pro Leu Pro Ala Lys Tyr Ile Asp
 320 325 330
 Leu Asp Lys Gly Phe Arg Lys Glu Asn Cys Lys
 335 340

<210> 78
 <211> 2243
 <212> DNA
 <213> Homo sapiens

<400> 78

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cagtctccga gctgaccagg aggactgct tgagaagctg ctggaccgcc 150
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gccattggtt caagggcgta ataaataactt gcgtattcaa aaa 2243

<210> 79
<211> 475
<212> PRT
<213> Homo sapiens

<400> 79
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Leu Leu Glu Lys Leu Leu Asp Arg Pro Pro Pro Gly Leu Gln Arg
35 40 45
Pro Glu Asp Arg Phe Cys Gly Thr Tyr Ile Ile Phe Phe Ser Leu
50 55 60
Gly Ile Gly Ser Leu Leu Pro Trp Asn Phe Phe Ile Thr Ala Lys
65 70 75
Glu Tyr Trp Met Phe Lys Leu Arg Asn Ser Ser Ser Pro Ala Thr
80 85 90
Gly Glu Asp Pro Glu Gly Ser Asp Ile Leu Asn Tyr Phe Glu Ser
95 100 105

Tyr Leu Ala Val Ala Ser Thr Val Pro Ser Met Leu Cys Leu Val
 110 115 120
 Ala Asn Phe Leu Leu Val Asn Arg Val Ala Val His Ile Arg Val
 125 130 135
 Leu Ala Ser Leu Thr Val Ile Leu Ala Ile Phe Met Val Ile Thr
 140 145 150
 Ala Leu Val Lys Val Asp Thr Ser Ser Trp Thr Arg Gly Phe Phe
 155 160 165
 Ala Val Thr Ile Val Cys Met Val Ile Leu Ser Gly Ala Ser Thr
 170 175 180
 Val Phe Ser Ser Ser Ile Tyr Gly Met Thr Gly Ser Phe Pro Met
 185 190 195
 Arg Asn Ser Gln Ala Leu Ile Ser Gly Gly Ala Met Gly Gly Thr
 200 205 210
 Val Ser Ala Val Ala Ser Leu Val Asp Leu Ala Ala Ser Ser Asp
 215 220 225
 Val Arg Asn Ser Ala Leu Ala Phe Phe Leu Thr Ala Thr Ile Phe
 230 235 240
 Leu Val Leu Cys Met Gly Leu Tyr Leu Leu Leu Ser Arg Leu Glu
 245 250 255
 Tyr Ala Arg Tyr Tyr Met Arg Pro Val Leu Ala Ala His Val Phe
 260 265 270
 Ser Gly Glu Glu Glu Leu Pro Gln Asp Ser Leu Ser Ala Pro Ser
 275 280 285
 Val Ala Ser Arg Phe Ile Asp Ser His Thr Pro Pro Leu Arg Pro
 290 295 300
 Ile Leu Lys Lys Thr Ala Ser Leu Gly Phe Cys Val Thr Tyr Val
 305 310 315
 Phe Phe Ile Thr Ser Leu Ile Tyr Pro Ala Val Cys Thr Asn Ile
 320 325 330
 Glu Ser Leu Asn Lys Gly Ser Gly Ser Leu Trp Thr Thr Lys Phe
 335 340 345
 Phe Ile Pro Leu Thr Thr Phe Leu Leu Tyr Asn Phe Ala Asp Leu
 350 355 360
 Cys Gly Arg Gln Leu Thr Ala Trp Ile Gln Val Pro Gly Pro Asn
 365 370 375
 Ser Lys Ala Leu Pro Gly Phe Val Leu Leu Arg Thr Cys Leu Ile
 380 385 390
 Pro Leu Phe Val Leu Cys Asn Tyr Gln Pro Arg Val His Leu Lys

| | | |
|---|-----|-----|
| 395 | 400 | 405 |
| Thr Val Val Phe Gln Ser Asp Val Tyr Pro Ala Leu Leu Ser Ser | | |
| 410 | 415 | 420 |
| Leu Leu Gly Leu Ser Asn Gly Tyr Leu Ser Thr Leu Ala Leu Leu | | |
| 425 | 430 | 435 |
| Tyr Gly Pro Lys Ile Val Pro Arg Glu Leu Ala Glu Ala Thr Gly | | |
| 440 | 445 | 450 |
| Val Val Met Ser Phe Tyr Val Cys Leu Gly Leu Thr Leu Gly Ser | | |
| 455 | 460 | 465 |
| Ala Cys Ser Thr Leu Leu Val His Leu Ile | | |
| 470 | 475 | |

<210> 80

<211> 22

<212> DNA

<213> Artificial

<220>

<221> Artificial sequence

<222> 1-22

<223> Synthetic construct.

<400> 80

ttttgcggtc accattgtct gc 22

<210> 81

<211> 23

<212> DNA

<213> Homo sapiens

<220>

<221> Artificial sequence

<222> 1-23

<223> Synthetic construct.

<400> 81

cgttaggtgac acagaagccc agg 23

<210> 82

<211> 49

<212> DNA

<213> Artificial

<220>

<221> Artificial sequence

<222> 1-49

<223> Synthetic construct.

<400> 82

tacggcatga ccggctcctt tcctatgagg aactccagg cactgatat 49

<210> 83

<211> 1844

<212> DNA
<213> Homo sapiens

<400> 83
gacagtggag ggcagtggag aggaccgcgc tgtcctgctg tcaccaagag 50
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tcctcgctct cgtccccatc ctcctcagcc tggtggcctc ccaggactgg 150
aaggctgaac gcagccaaga ccccttcgag aaatgcatgc aggatcctga 200
ctatgagcag ctgctcaagg tggtgacctg ggggctcaat cgaccctga 250
agccccagag ggtgattgtg gttggcgctg gtgtggccgg gctgggtggcc 300
gccaagggtgc tcagcgatgc tggacacaag gtcaccatcc tggaggcaga 350
taacaggatc gggggccgca tcttaccta ccgggaccag aacacgggct 400
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cgacaagaac acgtggacgg aggtgcacga agtgaagctg cgcaactatg 550
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gcattgcacg ggcctgtcgt gcgccagctc tgggacggca cggcgctcg 1400
caagcggtgg gcggaggacc agcacagcca gggtggcttt gtgg tacagc 1450
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cgcatctact ttgccggcga gcacaccgccc taccgcacg gctgggtgga 1550
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ggcaaaggaa gaaggcagcc accctccagt ccaaggccag ttatctctcc 1750
aaaacacgac ccacacgagg acctcgcatt aaagtatttt cgaaaaaaa 1800
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1844

<210> 84
<211> 567
<212> PRT
<213> Homo sapiens

<400> 84
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20 25 30
Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu
35 40 45
Leu Lys Val Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln
50 55 60
Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala
65 70 75
Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala
80 85 90
Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn
95 100 105
Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser
110 115 120
His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu
125 130 135
Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His
140 145 150
Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys
155 160 165

Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu
 170 175 180
 Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys
 185 190 195
 Ala Leu Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg His Thr
 200 205 210
 Leu Leu Glu Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro Ala
 215 220 225
 Val Gln Leu Leu Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr
 230 235 240
 Leu Ser Phe Ala Glu Ala Leu Arg Ala His Ser Cys Leu Ser Asp
 245 250 255
 Arg Leu Gln Tyr Ser Arg Ile Val Gly Gly Trp Asp Leu Leu Pro
 260 265 270
 Arg Ala Leu Leu Ser Ser Leu Ser Gly Leu Val Leu Leu Asn Ala
 275 280 285
 Pro Val Val Ala Met Thr Gln Gly Pro His Asp Val His Val Gln
 290 295 300
 Ile Glu Thr Ser Pro Pro Ala Arg Asn Leu Lys Val Leu Lys Ala
 305 310 315
 Asp Val Val Leu Leu Thr Ala Ser Gly Pro Ala Val Lys Arg Ile
 320 325 330
 Thr Phe Ser Pro Pro Leu Pro Arg His Met Gln Glu Ala Leu Arg
 335 340 345
 Arg Leu His Tyr Val Pro Ala Thr Lys Val Phe Leu Ser Phe Arg
 350 355 360
 Arg Pro Phe Trp Arg Glu Glu His Ile Glu Gly Gly His Ser Asn
 365 370 375
 Thr Asp Arg Pro Ser Arg Met Ile Phe Tyr Pro Pro Pro Arg Glu
 380 385 390
 Gly Ala Leu Leu Leu Ala Ser Tyr Thr Trp Ser Asp Ala Ala Ala
 395 400 405
 Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu Arg Leu Ala Leu
 410 415 420
 Asp Asp Val Ala Ala Leu His Gly Pro Val Val Arg Gln Leu Trp
 425 430 435
 Asp Gly Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln His Ser
 440 445 450
 Gln Gly Gly Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr Glu

| | | |
|---|-----|-----|
| 455 | 460 | 465 |
| Lys Asp Asp Trp Thr Val Pro Tyr Gly Arg Ile Tyr Phe Ala Gly | | |
| 470 | 475 | 480 |
| Glu His Thr Ala Tyr Pro His Gly Trp Val Glu Thr Ala Val Lys | | |
| 485 | 490 | 495 |
| Ser Ala Leu Arg Ala Ala Ile Lys Ile Asn Ser Arg Lys Gly Pro | | |
| 500 | 505 | 510 |
| Ala Ser Asp Thr Ala Ser Pro Glu Gly His Ala Ser Asp Met Glu | | |
| 515 | 520 | 525 |
| Gly Gln Gly His Val His Gly Val Ala Ser Ser Pro Ser His Asp | | |
| 530 | 535 | 540 |
| Leu Ala Lys Glu Glu Gly Ser His Pro Pro Val Gln Gly Gln Leu | | |
| 545 | 550 | 555 |
| Ser Leu Gln Asn Thr Thr His Thr Arg Thr Ser His | | |
| 560 | 565 | |

<210> 85
<211> 3316
<212> DNA
<213> Homo sapiens

<400> 85
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tggaggaacc acgagcgagg gaagaaggac agggactcgt gtggcaggaa 150
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aactgatctc ccccaccctt ggatttagagt tcctgctcta cttaccac 3250
agataacaca tggtgtttct acttgtaat gtaaagtctt taaaataaac 3300
tattacagat aaaaaa 3316

<210> 86
<211> 739
<212> PRT
<213> Homo sapiens

<400> 86
Met Asp Ala Leu Lys Pro Pro Cys Leu Trp Arg Asn His Glu Arg
1 5 10 15
Gly Lys Lys Asp Arg Asp Ser Cys Gly Arg Lys Asn Ser Glu Pro
20 25 30

Gly Ser Pro His Ser Leu Glu Ala Leu Arg Asp Ala Ala Pro Ser
35 40 45

Gln Gly Leu Asn Phe Leu Leu Leu Phe Thr Lys Met Leu Phe Ile
50 55 60

Phe Asn Phe Leu Phe Ser Pro Leu Pro Thr Pro Ala Leu Ile Cys
65 70 75

Ile Leu Thr Phe Gly Ala Ala Ile Phe Leu Trp Leu Ile Thr Arg
80 85 90

Pro Gln Pro Val Leu Pro Leu Leu Asp Leu Asn Asn Gln Ser Val
95 100 105

Gly Ile Glu Gly Gly Ala Arg Lys Gly Val Ser Gln Lys Asn Asn
110 115 120

Asp Leu Thr Ser Cys Cys Phe Ser Asp Ala Lys Thr Met Tyr Glu
125 130 135

Val Phe Gln Arg Gly Leu Ala Val Ser Asp Asn Gly Pro Cys Leu
140 145 150

Gly Tyr Arg Lys Pro Asn Gln Pro Tyr Arg Trp Leu Ser Tyr Lys
155 160 165

Gln Val Ser Asp Arg Ala Glu Tyr Leu Gly Ser Cys Leu Leu His
170 175 180

Lys Gly Tyr Lys Ser Ser Pro Asp Gln Phe Val Gly Ile Phe Ala
185 190 195

Gln Asn Arg Pro Glu Trp Ile Ile Ser Glu Leu Ala Cys Tyr Thr
200 205 210

Tyr Ser Met Val Ala Val Pro Leu Tyr Asp Thr Leu Gly Pro Glu
215 220 225

Ala Ile Val His Ile Val Asn Lys Ala Asp Ile Ala Met Val Ile
230 235 240

Cys Asp Thr Pro Gln Lys Ala Leu Val Leu Ile Gly Asn Val Glu
245 250 255

Lys Gly Phe Thr Pro Ser Leu Lys Val Ile Ile Leu Met Asp Pro
260 265 270

Phe Asp Asp Asp Leu Lys Gln Arg Gly Glu Lys Ser Gly Ile Glu
275 280 285

Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Gly Lys Glu His Phe
290 295 300

Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser Val Ile Cys
305 310 315

Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met Ile Thr

| | | |
|---|-----|-----|
| 320 | 325 | 330 |
| His Gln Asn Ile Val Ser Asn Ala Ala Ala Phe Leu Lys Cys Val | | |
| 335 | 340 | 345 |
| Glu His Ala Tyr Glu Pro Thr Pro Asp Asp Val Ala Ile Ser Tyr | | |
| 350 | 355 | 360 |
| Leu Pro Leu Ala His Met Phe Glu Arg Ile Val Gln Ala Val Val | | |
| 365 | 370 | 375 |
| Tyr Ser Cys Gly Ala Arg Val Gly Phe Phe Gln Gly Asp Ile Arg | | |
| 380 | 385 | 390 |
| Leu Leu Ala Asp Asp Met Lys Thr Leu Lys Pro Thr Leu Phe Pro | | |
| 395 | 400 | 405 |
| Ala Val Pro Arg Leu Leu Asn Arg Ile Tyr Asp Lys Val Gln Asn | | |
| 410 | 415 | 420 |
| Glu Ala Lys Thr Pro Leu Lys Lys Phe Leu Leu Lys Leu Ala Val | | |
| 425 | 430 | 435 |
| Ser Ser Lys Phe Lys Glu Leu Gln Lys Gly Ile Ile Arg His Asp | | |
| 440 | 445 | 450 |
| Ser Phe Trp Asp Lys Leu Ile Phe Ala Lys Ile Gln Asp Ser Leu | | |
| 455 | 460 | 465 |
| Gly Gly Arg Val Arg Val Ile Val Thr Gly Ala Ala Pro Met Ser | | |
| 470 | 475 | 480 |
| Thr Ser Val Met Thr Phe Phe Arg Ala Ala Met Gly Cys Gln Val | | |
| 485 | 490 | 495 |
| Tyr Glu Ala Tyr Gly Gln Thr Glu Cys Thr Gly Gly Cys Thr Phe | | |
| 500 | 505 | 510 |
| Thr Leu Pro Gly Asp Trp Thr Ser Gly His Val Gly Val Pro Leu | | |
| 515 | 520 | 525 |
| Ala Cys Asn Tyr Val Lys Leu Glu Asp Val Ala Asp Met Asn Tyr | | |
| 530 | 535 | 540 |
| Phe Thr Val Asn Asn Glu Gly Glu Val Cys Ile Lys Gly Thr Asn | | |
| 545 | 550 | 555 |
| Val Phe Lys Gly Tyr Leu Lys Asp Pro Glu Lys Thr Gln Glu Ala | | |
| 560 | 565 | 570 |
| Leu Asp Ser Asp Gly Trp Leu His Thr Gly Asp Ile Gly Arg Trp | | |
| 575 | 580 | 585 |
| Leu Pro Asn Gly Thr Leu Lys Ile Ile Asp Arg Lys Lys Asn Ile | | |
| 590 | 595 | 600 |
| Phe Lys Leu Ala Gln Gly Glu Tyr Ile Ala Pro Glu Lys Ile Glu | | |
| 605 | 610 | 615 |

Asn Ile Tyr Asn Arg Ser Gln Pro Val Leu Gln Ile Phe Val His
 620 625 630
 Gly Glu Ser Leu Arg Ser Ser Leu Val Gly Val Val Val Pro Asp
 635 640 645
 Thr Asp Val Leu Pro Ser Phe Ala Ala Lys Leu Gly Val Lys Gly
 650 655 660
 Ser Phe Glu Glu Leu Cys Gln Asn Gln Val Val Arg Glu Ala Ile
 665 670 675
 Leu Glu Asp Leu Gln Lys Ile Gly Lys Glu Ser Gly Leu Lys Thr
 680 685 690
 Phe Glu Gln Val Lys Ala Ile Phe Leu His Pro Glu Pro Phe Ser
 695 700 705
 Ile Glu Asn Gly Leu Leu Thr Pro Thr Leu Lys Ala Lys Arg Gly
 710 715 720
 Glu Leu Ser Lys Tyr Phe Arg Thr Gln Ile Asp Ser Leu Tyr Glu
 725 730 735
 His Ile Gln Asp

<210> 87
 <211> 2725
 <212> DNA
 <213> Homo sapiens

<400> 87
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 gcccggcg ggcccgcccc ccctaagcca ttccctgaagt catgggctgg 100
 ccagggacatt ggtgaccgc caatccggta tggacgactg gaagcccagc 150
 cccctcatca agccctttgg ggctcggaa aagcggagct ggtaccttac 200
 ctggaaagtat aaactgacaa accagcgggc cctgcggaga ttctgtcaga 250
 cagggggccgt gcttttcctg ctggtgactg tcattgtcaa tatcaagttg 300
 atcctggaca ctcggcgagc catcagtgaa gccaatgaag acccagagcc 350
 agagcaagac tatgatgagg ccctaggccg cctggagccc ccacggcgca 400
 gagggcgtgg tccccggcgg gtcctggacg tagaggtgta ttcaagtcgc 450
 agcaaagtat atgtggcagt ggatggcacc acggtgctgg aggatgaggc 500
 ccggggagcag ggccggggca tccatgtcat tgtcctcaac caggccacgg 550
 gcccacgtat ggcaaaaacgt gtgtttgaca cgtactcacc tcatgaggat 600
 gagggccatgg tgctattcct caacatggta gcgcccgccc gagtgctcat 650

ctgcactgtc aaggatgagg gtccttcca cctcaaggac acagccaagg 700
ctctgctgag gagcctgggc agccaggctg gccctgcctt gggctggagg 750
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catactccca tcagcatcaa gaatgcgcgc gtgtctcagc actacaaggc 1250
cagcctcaact gccactttca acctgtttcc ggaggccaaat tttgctgtgg 1300
ttctggaaga ggacctggac attgctgtgg atttttcag tttcctgagc 1350
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ggacaggccc agctggggcc cacatgctga cacagactca ctcagagacc 2600
cttagacact ggaccaggcc tcctctcagc cttctcttg tccagatttc 2650
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aaaaaaaaaa aaaaaaaaaa aaaaa 2725

<210> 88

<211> 660

<212> PRT

<213> Homo sapiens

<400> 88

Met Asp Asp Trp Lys Pro Ser Pro Leu Ile Lys Pro Phe Gly Ala
1 5 10 15

Arg Lys Lys Arg Ser Trp Tyr Leu Thr Trp Lys Tyr Lys Leu Thr
20 25 30

Asn Gln Arg Ala Leu Arg Arg Phe Cys Gln Thr Gly Ala Val Leu
35 40 45

Phe Leu Leu Val Thr Val Ile Val Asn Ile Lys Leu Ile Leu Asp
50 55 60

Thr Arg Arg Ala Ile Ser Glu Ala Asn Glu Asp Pro Glu Pro Glu
65 70 75

Gln Asp Tyr Asp Glu Ala Leu Gly Arg Leu Glu Pro Pro Arg Arg
80 85 90

Arg Gly Ser Gly Pro Arg Arg Val Leu Asp Val Glu Val Tyr Ser
95 100 105

Ser Arg Ser Lys Val Tyr Val Ala Val Asp Gly Thr Thr Val Leu
110 115 120

Glu Asp Glu Ala Arg Glu Gln Gly Arg Gly Ile His Val Ile Val
125 130 135

Leu Asn Gln Ala Thr Gly His Val Met Ala Lys Arg Val Phe Asp
 140 145 150
 Thr Tyr Ser Pro His Glu Asp Glu Ala Met Val Leu Phe Leu Asn
 155 160 165
 Met Val Ala Pro Gly Arg Val Leu Ile Cys Thr Val Lys Asp Glu
 170 175 180
 Gly Ser Phe His Leu Lys Asp Thr Ala Lys Ala Leu Leu Arg Ser
 185 190 195
 Leu Gly Ser Gln Ala Gly Pro Ala Leu Gly Trp Arg Asp Thr Trp
 200 205 210
 Ala Phe Val Gly Arg Lys Gly Gly Pro Val Phe Gly Glu Lys His
 215 220 225
 Ser Lys Ser Pro Ala Leu Ser Ser Trp Gly Asp Pro Val Leu Leu
 230 235 240
 Lys Thr Asp Val Pro Leu Ser Ser Ala Glu Glu Ala Glu Cys His
 245 250 255
 Trp Ala Asp Thr Glu Leu Asn Arg Arg Arg Arg Phe Cys Ser
 260 265 270
 Lys Val Glu Gly Tyr Gly Ser Val Cys Ser Cys Lys Asp Pro Thr
 275 280 285
 Pro Ile Glu Phe Ser Pro Asp Pro Leu Pro Asp Asn Lys Val Leu
 290 295 300
 Asn Val Pro Val Ala Val Ile Ala Gly Asn Arg Pro Asn Tyr Leu
 305 310 315
 Tyr Arg Met Leu Arg Ser Leu Leu Ser Ala Gln Gly Val Ser Pro
 320 325 330
 Gln Met Ile Thr Val Phe Ile Asp Gly Tyr Tyr Glu Glu Pro Met
 335 340 345
 Asp Val Val Ala Leu Phe Gly Leu Arg Gly Ile Gln His Thr Pro
 350 355 360
 Ile Ser Ile Lys Asn Ala Arg Val Ser Gln His Tyr Lys Ala Ser
 365 370 375
 Leu Thr Ala Thr Phe Asn Leu Phe Pro Glu Ala Lys Phe Ala Val
 380 385 390
 Val Leu Glu Glu Asp Leu Asp Ile Ala Val Asp Phe Phe Ser Phe
 395 400 405
 Leu Ser Gln Ser Ile His Leu Leu Glu Glu Asp Asp Ser Leu Tyr
 410 415 420
 Cys Ile Ser Ala Trp Asn Asp Gln Gly Tyr Glu His Thr Ala Glu

| 425 | 430 | 435 |
|--|-----|-----|
| Asp Pro Ala Leu Leu Tyr Arg Val Glu Thr Met Pro Gly Leu Gly 440 | 445 | 450 |
| Trp Val Leu Arg Arg Ser Leu Tyr Lys Glu Glu Leu Glu Pro Lys 455 | 460 | 465 |
| Trp Pro Thr Pro Glu Lys Leu Trp Asp Trp Asp Met Trp Met Arg 470 | 475 | 480 |
| Met Pro Glu Gln Arg Arg Gly Arg Glu Cys Ile Ile Pro Asp Val 485 | 490 | 495 |
| Ser Arg Ser Tyr His Phe Gly Ile Val Gly Leu Asn Met Asn Gly 500 | 505 | 510 |
| Tyr Phe His Glu Ala Tyr Phe Lys Lys His Lys Phe Asn Thr Val 515 | 520 | 525 |
| Pro Gly Val Gln Leu Arg Asn Val Asp Ser Leu Lys Lys Glu Ala 530 | 535 | 540 |
| Tyr Glu Val Glu Val His Arg Leu Leu Ser Glu Ala Glu Val Leu 545 | 550 | 555 |
| Asp His Ser Lys Asn Pro Cys Glu Asp Ser Phe Leu Pro Asp Thr 560 | 565 | 570 |
| Glu Gly His Thr Tyr Val Ala Phe Ile Arg Met Glu Lys Asp Asp 575 | 580 | 585 |
| Asp Phe Thr Thr Trp Thr Gln Leu Ala Lys Cys Leu His Ile Trp 590 | 595 | 600 |
| Asp Leu Asp Val Arg Gly Asn His Arg Gly Leu Trp Arg Leu Phe 605 | 610 | 615 |
| Arg Lys Lys Asn His Phe Leu Val Val Gly Val Pro Ala Ser Pro 620 | 625 | 630 |
| Tyr Ser Val Lys Lys Pro Pro Ser Val Thr Pro Ile Phe Leu Glu 635 | 640 | 645 |
| Pro Pro Pro Lys Glu Glu Gly Ala Pro Gly Ala Pro Glu Gln Thr 650 | 655 | 660 |

<210> 89
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.

<400> 89

gatggcaaaa cgtgtgttg acacg 25

<210> 90
<211> 22
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-22
<223> Synthetic construct.

<400> 90
cctcaaccag gccacgggcc ac 22

<210> 91
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-24
<223> Synthetic construct.

<400> 91
cccaggcaga gatgcagtac aggc 24

<210> 92
<211> 26
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.

<400> 92
cctccagtag gtggatggat tggctc 26

<210> 93
<211> 47
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-47
<223> Synthetic construct.

<400> 93
ctcacctcat gaggtgagg ccatggtgct attcctcaac atggtag 47

<210> 94
<211> 3037
<212> DNA
<213> Homo sapiens

<400> 94
cggacgcgtg ggctgcttgtt gggaaaggcct aaagaactgg aaagcccact 50
ctcttggAAC caccacacctt gtttaaAGAA cctaAGCACC atttaaAGCC 100
actggAAATT tggTTgtCTAG tggTTgtGGG tgaATAAAGG agggcAGAA 150
ggatgatttc atctccATTA gcctgctgtc tctggctatg ttggTggat 200
gttacgtggc cggaATCATT cccttggctg ttaATTTCTC agagGAACGA 250
ctgaagCTGG tgactgtttt gggTgctggc cttctCTgtg gaactgctct 300
ggcagtcatc gtgcctGAAG gagTAATGTC cctttatgaa gatattCTTg 350
agggAAAACA ccACCAAGCA agtGAACAC ataATGTGAT tgcatcAGAC 400
aaAGCAGCAG AAAAATCAgT tgcTcatgaa catgAGCACA gCcACGACCA 450
cacacAGCTG catgcCTATA ttggTgtttc cctcgTTCTG ggcttcgttt 500
tcatgttgct ggtggaccAG attggtaACT cccatgtgca ttctactgac 550
gatccAGAAG cagcaAGGTC tagcaATTCC AAAATCACCA ccacgctggg 600
tctggTTgtc catgctgcAG ctgatggTgt tgctttggga gcagcAGCAT 650
ctacttcaca gaccAGTgtc cAGTTAATTG tggTTgtggc aatcatgcta 700
cataAGGCAC cagCTgCTTT tggactggTT tccttCTTGA tgcatgctgg 750
cttagAGCGG aatcGAATCA gaaAGCactt gctggTcttt gcattggcAG 800
caccAGTTAT gtccatggTG acataCTTAG gactgAGTAA gagcAGTAAA 850
gaAGCCCTTT cAGAGGTgAA cgCCACGGGA gtggCCATgC ttttCTCTgC 900
cgGGACATTt ctTTATgtTG ccACAGTACA tgcTCTCCT gaggtggcG 950
gaatAGGGCA cAGCCACAAG cccgatGCCA cgggAGGGAG aggCCTCAGC 1000
cgCCTggAAAG tggcAGCCtT ggttCTggGT tgcCTCATCC ctCTCATCCT 1050
gtcAGTAGGA caccAGCATT AAATgttCAA ggtCCAGCCT tggTCCAGGG 1100
ccgtttGCCA tccAGTgAGA acAGCCGGCA cgtgACAGCT actCACTTCC 1150
tcAGTCTCTT gtctCACCTT gcgcATCTCT acATGTATTc ctagAGTCCA 1200
gaggggAGGT gaggtAAAAA CCTGAGTAAT ggAAAAGCTT ttagAGTAGA 1250
aacACATTtA cgttgcAGTT agCTATAGAC atCCCAATTGT gttATCTTT 1300
aaaAGGCCCCt tgacATTTG cgtttAAATA tttCTCTTAA ccCTATTCTC 1350
aggGAAGATG gaATTTAGTT ttaAGGAAAAA gaggAGAAct tcataCTCAC 1400
aatgAAATAG tgattATgAA aatacAGTGT tctgtAATTA agCTATGTCT 1450

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ttgtcaaata aatagcagat tgttagtgtca aaaaaaa 3037

<210> 95
<211> 307
<212> PRT
<213> Homo sapiens

<400> 95
Met Asp Asp Phe Ile Ser Ile Ser Leu Leu Ser Leu Ala Met Leu
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Val Gly Cys Tyr Val Ala Gly Ile Ile Pro Leu Ala Val Asn Phe
20 25 30
Ser Glu Glu Arg Leu Lys Leu Val Thr Val Leu Gly Ala Gly Leu
35 40 45
Leu Cys Gly Thr Ala Leu Ala Val Ile Val Pro Glu Gly Val His
50 55 60
Ala Leu Tyr Glu Asp Ile Leu Glu Gly Lys His His Gln Ala Ser
65 70 75
Glu Thr His Asn Val Ile Ala Ser Asp Lys Ala Ala Glu Lys Ser
80 85 90
Val Val His Glu His Ser His Asp His Thr Gln Leu His
95 100 105
Ala Tyr Ile Gly Val Ser Leu Val Leu Gly Phe Val Phe Met Leu
110 115 120
Leu Val Asp Gln Ile Gly Asn Ser His Val His Ser Thr Asp Asp
125 130 135
Pro Glu Ala Ala Arg Ser Ser Asn Ser Lys Ile Thr Thr Thr Leu
140 145 150
Gly Leu Val Val His Ala Ala Ala Asp Gly Val Ala Leu Gly Ala
155 160 165
Ala Ala Ser Thr Ser Gln Thr Ser Val Gln Leu Ile Val Phe Val
170 175 180
Ala Ile Met Leu His Lys Ala Pro Ala Ala Phe Gly Leu Val Ser
185 190 195
Phe Leu Met His Ala Gly Leu Glu Arg Asn Arg Ile Arg Lys His
200 205 210
Leu Leu Val Phe Ala Leu Ala Ala Pro Val Met Ser Met Val Thr
215 220 225
Tyr Leu Gly Leu Ser Lys Ser Lys Glu Ala Leu Ser Glu Val

| | | |
|---|-----|-----|
| 230 | 235 | 240 |
| Asn Ala Thr Gly Val Ala Met Leu Phe Ser Ala Gly Thr Phe Leu | | |
| 245 | 250 | 255 |
| Tyr Val Ala Thr Val His Val Leu Pro Glu Val Gly Gly Ile Gly | | |
| 260 | 265 | 270 |
| His Ser His Lys Pro Asp Ala Thr Gly Gly Arg Gly Leu Ser Arg | | |
| 275 | 280 | 285 |
| Leu Glu Val Ala Ala Leu Val Leu Gly Cys Leu Ile Pro Leu Ile | | |
| 290 | 295 | 300 |
| Leu Ser Val Gly His Gln His | | |
| 305 | | |

<210> 96
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.

<400> 96
gttgtgggtg aataaaggag ggcag 25

<210> 97
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.

<400> 97
ctgtgctcat gttcatggac aactg 25

<210> 98
<211> 50
<212> DNA
<213> Artificial

<220>
<221> Artificial sequence
<222> 1-50
<223> Synthetic construct.

<400> 98
ggatgatttc atctccatta gcctgctgtc tctggctatg ttgggtggat 50

<210> 99
<211> 1429

<212> DNA
<213> Homo sapiens

<400> 99
gctcgaggcc ggccggcggcg ggagagcgac ccgggcggcc tcgttagcggg 50
gccccggatc cccgagtggc ggccggagcc tcgaaaagag attctcagcg 100
ctgattttga gatgatgggc ttggaaaacg ggcgtcgcag catgaagtcg 150
ccgcccctcg tgctggcgc cctggtgcc tcgatcatcg tcttggcct 200
caactactgg attgcgagct cccggagcgt ggacctccag acacggatca 250
tggagctgga aggcagggtc cgccaggcgg ctgcagagag aggcgccgtg 300
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gagaagatga ctacaacatg gataaaaatg aagcagaatc tgagacagac 1200
aagcaagcag ccctggcagg gaatgacaga aacatagatg ttttaatgt 1250
tgaagatcag aaaagagaca ccataaattt acttgatcag cgtaaaagc 1300
ggaatcatac actctgaatt gaactggaat cacatatttc acaacaggc 1350

cgaagagatg actataaaat gttcatgagg gactgaatac tgaaaactgt 1400
gaaatgtact aaataaaatg tacatctga 1429

<210> 100
<211> 401
<212> PRT
<213> Homo sapiens

<400> 100
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1 5 10 15
Leu Val Leu Ala Ala Leu Val Ala Cys Ile Ile Val Leu Gly Phe
20 25 30
Asn Tyr Trp Ile Ala Ser Ser Arg Ser Val Asp Leu Gln Thr Arg
35 40 45
Ile Met Glu Leu Glu Gly Arg Val Arg Arg Ala Ala Ala Glu Arg
50 55 60
Gly Ala Val Glu Leu Lys Lys Asn Glu Phe Gln Gly Glu Leu Glu
65 70 75
Lys Gln Arg Glu Gln Leu Asp Lys Ile Gln Ser Ser His Asn Phe
80 85 90
Gln Leu Glu Ser Val Asn Lys Leu Tyr Gln Asp Glu Lys Ala Val
95 100 105
Leu Val Asn Asn Ile Thr Thr Gly Glu Arg Leu Ile Arg Val Leu
110 115 120
Gln Asp Gln Leu Lys Thr Leu Gln Arg Asn Tyr Gly Arg Leu Gln
125 130 135
Gln Asp Val Leu Gln Phe Gln Lys Asn Gln Thr Asn Leu Glu Arg
140 145 150
Lys Phe Ser Tyr Asp Leu Ser Gln Cys Ile Asn Gln Met Lys Glu
155 160 165
Val Lys Glu Gln Cys Glu Glu Arg Ile Glu Glu Val Thr Lys Lys
170 175 180
Gly Asn Glu Ala Val Ala Ser Arg Asp Leu Ser Glu Asn Asn Asp
185 190 195
Gln Arg Gln Gln Leu Gln Ala Leu Ser Glu Pro Gln Pro Arg Leu
200 205 210
Gln Ala Ala Gly Leu Pro His Thr Glu Val Pro Gln Gly Lys Gly
215 220 225
Asn Val Leu Gly Asn Ser Lys Ser Gln Thr Pro Ala Pro Ser Ser
230 235 240

Glu Val Val Leu Asp Ser Lys Arg Gln Val Glu Lys Glu Glu Thr
245 250 255

Asn Glu Ile Gln Val Val Asn Glu Glu Pro Gln Arg Asp Arg Arg Leu
260 265 270

Pro Gln Glu Pro Gly Arg Glu Gln Val Val Glu Asp Arg Pro Val
275 280 285

Gly Gly Arg Gly Phe Gly Gly Ala Gly Glu Leu Gly Gln Thr Pro
290 295 300

Gln Val Gln Ala Ala Leu Ser Val Ser Gln Glu Asn Pro Glu Met
305 310 315

Glu Gly Pro Glu Arg Asp Gln Leu Val Ile Pro Asp Gly Gln Glu
320 325 330

Glu Glu Gln Glu Ala Ala Gly Glu Gly Arg Asn Gln Gln Lys Leu
335 340 345

Arg Gly Glu Asp Asp Tyr Asn Met Asp Glu Asn Glu Ala Glu Ser
350 355 360

Glu Thr Asp Lys Gln Ala Ala Leu Ala Gly Asn Asp Arg Asn Ile
365 370 375

Asp Val Phe Asn Val Glu Asp Gln Lys Arg Asp Thr Ile Asn Leu
380 385 390

Leu Asp Gln Arg Glu Lys Arg Asn His Thr Leu
395 400

<210> 101

<211> 3671

<212> DNA

<213> Homo sapiens

<400> 101

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<210> 102

<211> 1089

<212> PRT

<213> Homo sapiens

<400> 102

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| 1 | | | | | | | | | | | | | | | 15 |
| Leu | Phe | Tyr | Ala | Gly | Ile | Ala | Leu | Phe | Thr | Ser | Gly | Phe | Leu | Leu | |
| | | | | | 20 | | | | 25 | | | | | | 30 |
| Thr | Arg | Leu | Glu | Leu | Thr | Asn | His | Ser | Ser | Cys | Gln | Glu | Pro | Pro | |
| | | | | | 35 | | | | 40 | | | | | | 45 |
| Gly | Pro | Gly | Ser | Leu | Pro | Trp | Gly | Ser | Gln | Gly | Lys | Pro | Gly | Ala | |
| | | | | 50 | | | | 55 | | | | | | | 60 |
| Cys | Trp | Met | Ala | Ser | Arg | Phe | Ser | Arg | Val | Val | Leu | Val | Leu | Ile | |
| | | | | 65 | | | | 70 | | | | | | | 75 |
| Asp | Ala | Leu | Arg | Phe | Asp | Phe | Ala | Gln | Pro | Gln | His | Ser | His | Val | |
| | | | | 80 | | | | 85 | | | | | | | 90 |
| Pro | Arg | Glu | Pro | Pro | Val | Ser | Leu | Pro | Phe | Leu | Gly | Lys | Leu | Ser | |
| | | | | | 95 | | | | 100 | | | | | | 105 |
| Ser | Leu | Gln | Arg | Ile | Leu | Glu | Ile | Gln | Pro | His | His | Ala | Arg | Leu | |
| | | | | 110 | | | | 115 | | | | | | | 120 |
| Tyr | Arg | Ser | Gln | Val | Asp | Pro | Pro | Thr | Thr | Thr | Met | Gln | Arg | Leu | |
| | | | | 125 | | | | 130 | | | | | | | 135 |
| Lys | Ala | Leu | Thr | Thr | Gly | Ser | Leu | Pro | Thr | Phe | Ile | Asp | Ala | Gly | |
| | | | | 140 | | | | 145 | | | | | | | 150 |
| Ser | Asn | Phe | Ala | Ser | His | Ala | Ile | Val | Glu | Asp | Asn | Leu | Ile | Lys | |
| | | | | 155 | | | | 160 | | | | | | | 165 |
| Gln | Leu | Thr | Ser | Ala | Gly | Arg | Arg | Val | Val | Phe | Met | Gly | Asp | Asp | |
| | | | | 170 | | | | 175 | | | | | | | 180 |
| Thr | Trp | Lys | Asp | Leu | Phe | Pro | Gly | Ala | Phe | Ser | Lys | Ala | Phe | Phe | |
| | | | | 185 | | | | 190 | | | | | | | 195 |
| Phe | Pro | Ser | Phe | Asn | Val | Arg | Asp | Leu | Asp | Thr | Val | Asp | Asn | Gly | |

| | | | |
|---|-----|-----|-----|
| | 200 | 205 | 210 |
| Ile Leu Glu His Leu Tyr Pro Thr Met Asp Ser Gly Glu Trp Asp | | | |
| 215 | 220 | 225 | |
| Val Leu Ile Ala His Phe Leu Gly Val Asp His Cys Gly His Lys | | | |
| 230 | 235 | 240 | |
| His Gly Pro His His Pro Glu Met Ala Lys Lys Leu Ser Gln Met | | | |
| 245 | 250 | 255 | |
| Asp Gln Val Ile Gln Gly Leu Val Glu Arg Leu Glu Asn Asp Thr | | | |
| 260 | 265 | 270 | |
| Leu Leu Val Val Ala Gly Asp His Gly Met Thr Thr Asn Gly Asp | | | |
| 275 | 280 | 285 | |
| His Gly Gly Asp Ser Glu Leu Glu Val Ser Ala Ala Leu Phe Leu | | | |
| 290 | 295 | 300 | |
| Tyr Ser Pro Thr Ala Val Phe Pro Ser Thr Pro Pro Glu Glu Pro | | | |
| 305 | 310 | 315 | |
| Glu Val Ile Pro Gln Val Ser Leu Val Pro Thr Leu Ala Leu Leu | | | |
| 320 | 325 | 330 | |
| Leu Gly Leu Pro Ile Pro Phe Gly Asn Ile Gly Glu Val Met Ala | | | |
| 335 | 340 | 345 | |
| Glu Leu Phe Ser Gly Gly Glu Asp Ser Gln Pro His Ser Ser Ala | | | |
| 350 | 355 | 360 | |
| Leu Ala Gln Ala Ser Ala Leu His Leu Asn Ala Gln Gln Val Ser | | | |
| 365 | 370 | 375 | |
| Arg Phe Leu His Thr Tyr Ser Ala Ala Thr Gln Asp Leu Gln Ala | | | |
| 380 | 385 | 390 | |
| Lys Glu Leu His Gln Leu Gln Asn Leu Phe Ser Lys Ala Ser Ala | | | |
| 395 | 400 | 405 | |
| Asp Tyr Gln Trp Leu Leu Gln Ser Pro Lys Gly Ala Glu Ala Thr | | | |
| 410 | 415 | 420 | |
| Leu Pro Thr Val Ile Ala Glu Leu Gln Gln Phe Leu Arg Gly Ala | | | |
| 425 | 430 | 435 | |
| Arg Ala Met Cys Ile Glu Ser Trp Ala Arg Phe Ser Leu Val Arg | | | |
| 440 | 445 | 450 | |
| Met Ala Gly Gly Thr Ala Leu Leu Ala Ala Ser Cys Phe Ile Cys | | | |
| 455 | 460 | 465 | |
| Leu Leu Ala Ser Gln Trp Ala Ile Ser Pro Gly Phe Pro Phe Cys | | | |
| 470 | 475 | 480 | |
| Pro Leu Leu Leu Thr Pro Val Ala Trp Gly Leu Val Gly Ala Ile | | | |
| 485 | 490 | 495 | |

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 Val Leu Leu Gly Ala Val Ala Ala Val Ser Ser Phe Leu Pro Phe
 515 520 525
 Leu Trp Lys Ala Trp Ala Gly Trp Gly Ser Lys Arg Pro Leu Ala
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 Thr Leu Phe Pro Ile Pro Gly Pro Val Leu Leu Leu Leu Phe
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 Arg Leu Ala Val Phe Phe Ser Asp Ser Phe Val Val Ala Glu Ala
 560 565 570
 Arg Ala Thr Pro Phe Leu Leu Gly Ser Phe Ile Leu Leu Leu Val
 575 580 585
 Val Gln Leu His Trp Glu Gly Gln Leu Leu Pro Pro Lys Leu Leu
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 Thr Met Pro Arg Leu Gly Thr Ser Ala Thr Thr Asn Pro Pro Arg
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 635 640 645
 Pro Val Cys His Ser Ser Pro Trp Leu Ser Pro Leu Ala Ser Met
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 Val Gly Gly Arg Ala Lys Asn Leu Trp Tyr Gly Ala Cys Val Ala
 665 670 675
 Ala Leu Val Ala Leu Leu Ala Ala Val Arg Leu Trp Leu Arg Arg
 680 685 690
 Tyr Gly Asn Leu Lys Ser Pro Glu Pro Pro Met Leu Phe Val Arg
 695 700 705
 Trp Gly Leu Pro Leu Met Ala Leu Gly Thr Ala Ala Tyr Trp Ala
 710 715 720
 Leu Ala Ser Gly Ala Asp Glu Ala Pro Pro Arg Leu Arg Val Leu
 725 730 735
 Val Ser Gly Ala Ser Met Val Leu Pro Arg Ala Val Ala Gly Leu
 740 745 750
 Ala Ala Ser Gly Leu Ala Leu Leu Trp Lys Pro Val Thr Val
 755 760 765
 Leu Val Lys Ala Gly Ala Gly Ala Pro Arg Thr Arg Thr Val Leu
 770 775 780
 Thr Pro Phe Ser Gly Pro Pro Thr Ser Gln Ala Asp Leu Asp Tyr

| 785 | 790 | 795 |
|---|-------------------------|------|
| Val Val Pro Gln Ile Tyr Arg His Met | Gln Glu Glu Phe Arg Gly | |
| 800 | 805 | 810 |
| Arg Leu Glu Arg Thr Lys Ser Gln Gly | Pro Leu Thr Val Ala Ala | |
| 815 | 820 | 825 |
| Tyr Gln Leu Gly Ser Val Tyr Ser Ala Ala | Met Val Thr Ala Leu | |
| 830 | 835 | 840 |
| Thr Leu Leu Ala Phe Pro Leu Leu Leu | Leu His Ala Glu Arg Ile | |
| 845 | 850 | 855 |
| Ser Leu Val Phe Leu Leu Leu Phe Leu | Gln Ser Phe Leu Leu Leu | |
| 860 | 865 | 870 |
| His Leu Leu Ala Ala Gly Ile Pro Val Thr | Thr Pro Gly Pro Phe | |
| 875 | 880 | 885 |
| Thr Val Pro Trp Gln Ala Val Ser Ala | Trp Ala Leu Met Ala Thr | |
| 890 | 895 | 900 |
| Gln Thr Phe Tyr Ser Thr Gly His Gln | Pro Val Phe Pro Ala Ile | |
| 905 | 910 | 915 |
| His Trp His Ala Ala Phe Val Gly Phe | Pro Glu Gly His Gly Ser | |
| 920 | 925 | 930 |
| Cys Thr Trp Leu Pro Ala Leu Leu Val | Gly Ala Asn Thr Phe Ala | |
| 935 | 940 | 945 |
| Ser His Leu Leu Phe Ala Val Gly Cys | Pro Leu Leu Leu Leu Trp | |
| 950 | 955 | 960 |
| Pro Phe Leu Cys Glu Ser Gln Gly Leu | Arg Lys Arg Gln Gln Pro | |
| 965 | 970 | 975 |
| Pro Gly Asn Glu Ala Asp Ala Arg Val | Arg Pro Glu Glu Glu | |
| 980 | 985 | 990 |
| Glu Pro Leu Met Glu Met Arg Leu Arg Asp | Ala Pro Gln His Phe | |
| 995 | 1000 | 1005 |
| Tyr Ala Ala Leu Leu Gln Leu Gly Leu | Lys Tyr Leu Phe Ile Leu | |
| 1010 | 1015 | 1020 |
| Gly Ile Gln Ile Leu Ala Cys Ala Leu | Ala Ala Ser Ile Leu Arg | |
| 1025 | 1030 | 1035 |
| Arg His Leu Met Val Trp Lys Val Phe | Ala Pro Lys Phe Ile Phe | |
| 1040 | 1045 | 1050 |
| Glu Ala Val Gly Phe Ile Val Ser Ser | Val Gly Leu Leu Leu Gly | |
| 1055 | 1060 | 1065 |
| Ile Ala Leu Val Met Arg Val Asp Gly | Ala Val Ser Ser Trp Phe | |
| 1070 | 1075 | 1080 |

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<211> 1743

<212> DNA

<213> Homo sapiens

<400> 103

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<211> 442

<212> PRT

<213> Homo sapiens

<400> 104

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| Met | Ser | Tyr | Asn | Gly | Leu | His | Gln | Arg | Val | Phe | Lys | Glu | Leu | Lys |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |
| Leu | Leu | Thr | Leu | Cys | Ser | Ile | Ser | Ser | Gln | Ile | Gly | Pro | Pro | Glu |
| | | | | 20 | | | | | 25 | | | | 30 | |
| Val | Ala | Leu | Thr | Thr | Asp | Glu | Lys | Ser | Ile | Ser | Val | Val | Leu | Thr |
| | | | | 35 | | | | | 40 | | | | 45 | |
| Ala | Pro | Glu | Lys | Trp | Lys | Arg | Asn | Pro | Glu | Asp | Leu | Pro | Val | Ser |
| | | | | 50 | | | | | 55 | | | | 60 | |
| Met | Gln | Gln | Ile | Tyr | Ser | Asn | Leu | Lys | Tyr | Asn | Val | Ser | Val | Leu |
| | | | | 65 | | | | | 70 | | | | 75 | |
| Asn | Thr | Lys | Ser | Asn | Arg | Thr | Trp | Ser | Gln | Cys | Val | Thr | Asn | His |
| | | | | 80 | | | | | 85 | | | | 90 | |
| Thr | Leu | Val | Leu | Thr | Trp | Leu | Glu | Pro | Asn | Thr | Leu | Tyr | Cys | Val |
| | | | | 95 | | | | | 100 | | | | 105 | |
| His | Val | Glu | Ser | Phe | Val | Pro | Gly | Pro | Pro | Arg | Arg | Ala | Gln | Pro |
| | | | | 110 | | | | | 115 | | | | 120 | |
| Ser | Glu | Lys | Gln | Cys | Ala | Arg | Thr | Leu | Lys | Asp | Gln | Ser | Ser | Glu |
| | | | | 125 | | | | | 130 | | | | 135 | |
| Phe | Lys | Ala | Lys | Ile | Ile | Phe | Trp | Tyr | Val | Leu | Pro | Ile | Ser | Ile |
| | | | | 140 | | | | | 145 | | | | 150 | |
| Thr | Val | Phe | Leu | Phe | Ser | Val | Met | Gly | Tyr | Ser | Ile | Tyr | Arg | Tyr |
| | | | | 155 | | | | | 160 | | | | 165 | |

Ile His Val Gly Lys Glu Lys His Pro Ala Asn Leu Ile Leu Ile
170 175 180

Tyr Gly Asn Glu Phe Asp Lys Arg Phe Phe Val Pro Ala Glu Lys
185 190 195

Ile Val Ile Asn Phe Ile Thr Leu Asn Ile Ser Asp Asp Ser Lys
200 205 210

Ile Ser His Gln Asp Met Ser Leu Leu Gly Lys Ser Ser Asp Val
215 220 225

Ser Ser Leu Asn Asp Pro Gln Pro Ser Gly Asn Leu Arg Pro Pro
230 235 240

Gln Glu Glu Glu Glu Val Lys His Leu Gly Tyr Ala Ser His Leu
245 250 255

Met Glu Ile Phe Cys Asp Ser Glu Glu Asn Thr Glu Gly Thr Ser
260 265 270

Leu Thr Gln Gln Glu Ser Leu Ser Arg Thr Ile Pro Pro Asp Lys
275 280 285

Thr Val Ile Glu Tyr Glu Tyr Asp Val Arg Thr Thr Asp Ile Cys
290 295 300

Ala Gly Pro Glu Glu Gln Glu Leu Ser Leu Gln Glu Glu Val Ser
305 310 315

Thr Gln Gly Thr Leu Leu Glu Ser Gln Ala Ala Leu Ala Val Leu
320 325 330

Gly Pro Gln Thr Leu Gln Tyr Ser Tyr Thr Pro Gln Leu Gln Asp
335 340 345

Leu Asp Pro Leu Ala Gln Glu His Thr Asp Ser Glu Glu Gly Pro
350 355 360

Glu Glu Glu Pro Ser Thr Thr Leu Val Asp Trp Asp Pro Gln Thr
365 370 375

Gly Arg Leu Cys Ile Pro Ser Leu Ser Ser Phe Asp Gln Asp Ser
380 385 390

Glu Gly Cys Glu Pro Ser Glu Gly Asp Gly Leu Gly Glu Glu Gly
395 400 405

Leu Leu Ser Arg Leu Tyr Glu Glu Pro Ala Pro Asp Arg Pro Pro
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Gly Glu Asn Glu Thr Tyr Leu Met Gln Phe Met Glu Glu Trp Gly
425 430 435

Leu Tyr Val Gln Met Glu Asn
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<210> 105

<211> 21
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<213> Artificial

<220>
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<400> 105
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<210> 106
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<220>
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<400> 106
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<210> 107
<211> 18
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<220>
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<222> 1-18
<223> Synthetic construct.

<400> 107
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<210> 108
<211> 25
<212> DNA
<213> Artificial

<220>
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<223> Synthetic construct.

<400> 108
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<210> 109
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<212> DNA
<213> Artificial

<220>
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<222> 1-51
<223> Synthetic construct.

<400> 109
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<210> 110
<211> 1114
<212> DNA
<213> Homo sapiens

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cccgacgtgt acacgcaggt gtccgcctt gtggcctgga tctggacgt 850
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gccgctccag gcctggaatg ttccgtggct gggccccacg ggaaggcctga 1000
tgttcagggt tggggtgaaa cgggcagcgg tggggcacac ccattccaca 1050
tgcaaaggc agaagcaaac ccagtaaaat gttaactgac aaaaaaaaaa 1100

aaaaaaaaaa gaaa 1114

<210> 111

<211> 283

<212> PRT

<213> Homo sapiens

<400> 111

Met Gly Leu Gly Leu Arg Gly Trp Gly Arg Pro Leu Leu Thr Val
1 5 10 15

Ala Thr Ala Leu Met Leu Pro Val Lys Pro Pro Ala Gly Ser Trp
20 25 30

Gly Ala Gln Ile Ile Gly Gly His Glu Val Thr Pro His Ser Arg
35 40 45

Pro Tyr Met Ala Ser Val Arg Phe Gly Gly Gln His His Cys Gly
50 55 60

Gly Phe Leu Leu Arg Ala Arg Trp Val Val Ser Ala Ala His Cys
65 70 75

Phe Ser His Arg Asp Leu Arg Thr Gly Leu Val Val Leu Gly Ala
80 85 90

His Val Leu Ser Thr Ala Glu Pro Thr Gln Gln Val Phe Gly Ile
95 100 105

Asp Ala Leu Thr Thr His Pro Asp Tyr His Pro Met Thr His Ala
110 115 120

Asn Asp Ile Cys Leu Leu Arg Leu Asn Gly Ser Ala Val Leu Gly
125 130 135

Pro Ala Val Gly Leu Leu Arg Leu Pro Gly Arg Arg Ala Arg Pro
140 145 150

Pro Thr Ala Gly Thr Arg Cys Arg Val Ala Gly Trp Gly Phe Val
155 160 165

Ser Asp Phe Glu Glu Leu Pro Pro Gly Leu Met Glu Ala Lys Val
170 175 180

Arg Val Leu Asp Pro Asp Val Cys Asn Ser Ser Trp Lys Gly His
185 190 195

Leu Thr Leu Thr Met Leu Cys Thr Arg Ser Gly Asp Ser His Arg
200 205 210

Arg Gly Phe Cys Ser Ala Asp Ser Gly Gly Pro Leu Val Cys Arg
215 220 225

Asn Arg Ala His Gly Leu Val Ser Phe Ser Gly Leu Trp Cys Gly
230 235 240

Asp Pro Lys Thr Pro Asp Val Tyr Thr Gln Val Ser Ala Phe Val
245 250 255

Ala Trp Ile Trp Asp Val Val Arg Arg Ser Ser Pro Gln Pro Gly
260 265 270

Pro Leu Pro Gly Thr Thr Arg Pro Pro Gly Glu Ala Ala
275 280

<210> 112

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 112

gacgtctgca acagctcctg gaag 24

<210> 113

<211> 23

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 113

cgagaaggaa acgaggccgt gag 23

<210> 114

<211> 44

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-44

<223> Synthetic construct.

<400> 114

tgacacttac catgctctgc acccgccagt gggacagcca caga 44

<210> 115

<211> 1808

<212> DNA

<213> Homo sapiens

<400> 115

gagctaccca ggcggctgg gtgcagcaag ctccgcgccg actccggacg 50

cctgacgcct gacgcctgtc cccggccccgg catgagccgc tacctgctgc 100

cgctgtcggc gctgggcacg gtagcaggcg ccgccgtgct gctcaaggac 150

tatgtcaccg gtggggcttg ccccagcaag gccaccatcc ctggaaagac 200

ggtcatcgta acgggcgcca acacaggcat cgggaagcag accgccttgg 250
aactggccag gagaggaggc aacatcatcc tggcctgccg agacatggag 300
aagtgtgagg cggcagcaaa ggacatccgc ggggagaccc tcaatcacca 350
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ttgcagcaaa gatcattgaa gaggaggagc gagtggacat tctaataaac 450
aacgcgggtg tgatgcggtg cccccactgg accaccgagg acggcttcga 500
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gctcattt 1808

<210> 116
<211> 331
<212> PRT
<213> Homo sapiens

<400> 116
Met Ser Arg Tyr Leu Leu Pro Leu Ser Ala Leu Gly Thr Val Ala
1 5 10 15
Gly Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys
20 25 30
Pro Ser Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly
35 40 45
Ala Asn Thr Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg
50 55 60
Arg Gly Gly Asn Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys
65 70 75
Glu Ala Ala Ala Lys Asp Ile Arg Gly Glu Thr Leu Asn His His
80 85 90
Val Asn Ala Arg His Leu Asp Leu Ala Ser Leu Lys Ser Ile Arg
95 100 105
Glu Phe Ala Ala Lys Ile Ile Glu Glu Glu Glu Arg Val Asp Ile
110 115 120
Leu Ile Asn Asn Ala Gly Val Met Arg Cys Pro His Trp Thr Thr
125 130 135
Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His Leu Gly His
140 145 150
Phe Leu Leu Thr Asn Leu Leu Asp Lys Leu Lys Ala Ser Ala
155 160 165
Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala His Val Ala Gly
170 175 180
His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg Lys Tyr Asn
185 190 195
Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val Leu Phe
200 205 210
Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Ser Gly Val Thr Val
215 220 225

Asn Ala Leu His Pro Gly Val Ala Arg Thr Glu Leu Gly Arg His
230 235 240

Thr Gly Ile His Gly Ser Thr Phe Ser Ser Thr Thr Leu Gly Pro
245 250 255

Ile Phe Trp Leu Leu Val Lys Ser Pro Glu Leu Ala Ala Gln Pro
260 265 270

Ser Thr Tyr Leu Ala Val Ala Glu Glu Leu Ala Asp Val Ser Gly
275 280 285

Lys Tyr Phe Asp Gly Leu Lys Gln Lys Ala Pro Ala Pro Glu Ala
290 295 300

Glu Asp Glu Glu Val Ala Arg Arg Leu Trp Ala Glu Ser Ala Arg
305 310 315

Leu Val Gly Leu Glu Ala Pro Ser Val Arg Glu Gln Pro Leu Pro
320 325 330

Arg

<210> 117
<211> 2249
<212> DNA
<213> Homo sapiens

<400> 117
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gggcgacacg ttctcggcgc tgaccagcgt ggccgcgcgc ctggcgcccc 150
agcgcggcgt gctggggctg ctgaggcggt acctgcgcgg ggaggaggcg 200
cggctgcggg acctgactag attctacgac aaggtaactt ctttgcattga 250
ggattcaaca acccctgtgg ctaaccctct gcttgcattt actctcatca 300
aacgcctgca gtctgactgg aggaatgtgg tacatagtct ggaggccagt 350
gagaacatcc gagctctgaa ggatggctat gagaagggtgg agcaagacct 400
tccagccttt gaggaccttg agggagcagc aaggccctg atgcggctgc 450
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T007402-21374

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tagcctgact cccagaactt taagactttc tccccactgc cttctgctgc 2100
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tacattatat aaggatttt tttaagttga aaacaacttt ctttcttt 2200
tgtatgatgg tttttaaca cagtcattaa aaatgttat aaatcaaaa 2249

<210> 118
<211> 544
<212> PRT
<213> Homo sapiens

<400> 118
Met Gly Pro Gly Ala Arg Leu Ala Ala Leu Leu Ala Val Leu Ala
1 5 10 15
Leu Gly Thr Gly Asp Pro Glu Arg Ala Ala Ala Arg Gly Asp Thr
20 25 30
Phe Ser Ala Leu Thr Ser Val Ala Arg Ala Leu Ala Pro Glu Arg
35 40 45
Arg Leu Leu Gly Leu Leu Arg Arg Tyr Leu Arg Gly Glu Glu Ala
50 55 60
Arg Leu Arg Asp Leu Thr Arg Phe Tyr Asp Lys Val Leu Ser Leu
65 70 75
His Glu Asp Ser Thr Thr Pro Val Ala Asn Pro Leu Leu Ala Phe
80 85 90
Thr Leu Ile Lys Arg Leu Gln Ser Asp Trp Arg Asn Val Val His
95 100 105
Ser Leu Glu Ala Ser Glu Asn Ile Arg Ala Leu Lys Asp Gly Tyr
110 115 120
Glu Lys Val Glu Gln Asp Leu Pro Ala Phe Glu Asp Leu Glu Gly
125 130 135
Ala Ala Arg Ala Leu Met Arg Leu Gln Asp Val Tyr Met Leu Asn
140 145 150
Val Lys Gly Leu Ala Arg Gly Val Phe Gln Arg Val Thr Gly Ser
155 160 165
Ala Ile Thr Asp Leu Tyr Ser Pro Lys Arg Leu Phe Ser Leu Thr
170 175 180
Gly Asp Asp Cys Phe Gln Val Gly Lys Val Ala Tyr Asp Met Gly
185 190 195
Asp Tyr Tyr His Ala Ile Pro Trp Leu Glu Glu Ala Val Ser Leu
200 205 210
Phe Arg Gly Ser Tyr Gly Glu Trp Lys Thr Glu Asp Glu Ala Ser
215 220 225
Leu Glu Asp Ala Leu Asp His Leu Ala Phe Ala Tyr Phe Arg Ala
230 235 240

Gly Asn Val Ser Cys Ala Leu Ser Leu Ser Arg Glu Phe Leu Leu
 245 250 255
 Tyr Ser Pro Asp Asn Lys Arg Met Ala Arg Asn Val Leu Lys Tyr
 260 265 270
 Glu Arg Leu Leu Ala Glu Ser Pro Asn His Val Val Ala Glu Ala
 275 280 285
 Val Ile Gln Arg Pro Asn Ile Pro His Leu Gln Thr Arg Asp Thr
 290 295 300
 Tyr Glu Gly Leu Cys Gln Thr Leu Gly Ser Gln Pro Thr Leu Tyr
 305 310 315
 Gln Ile Pro Ser Leu Tyr Cys Ser Tyr Glu Thr Asn Ser Asn Ala
 320 325 330
 Tyr Leu Leu Leu Gln Pro Ile Arg Lys Glu Val Ile His Leu Glu
 335 340 345
 Pro Tyr Ile Ala Leu Tyr His Asp Phe Val Ser Asp Ser Glu Ala
 350 355 360
 Gln Lys Ile Arg Glu Leu Ala Glu Pro Trp Leu Gln Arg Ser Val
 365 370 375
 Val Ala Ser Gly Glu Lys Gln Leu Gln Val Glu Tyr Arg Ile Ser
 380 385 390
 Lys Ser Ala Trp Leu Lys Asp Thr Val Asp Pro Lys Leu Val Thr
 395 400 405
 Leu Asn His Arg Ile Ala Ala Leu Thr Gly Leu Asp Val Arg Pro
 410 415 420
 Pro Tyr Ala Glu Tyr Leu Gln Val Val Asn Tyr Gly Ile Gly Gly
 425 430 435
 His Tyr Glu Pro His Phe Asp His Ala Thr Ser Pro Ser Ser Pro
 440 445 450
 Leu Tyr Arg Met Lys Ser Gly Asn Arg Val Ala Thr Phe Met Ile
 455 460 465
 Tyr Leu Ser Ser Val Glu Ala Gly Gly Ala Thr Ala Phe Ile Tyr
 470 475 480
 Ala Asn Leu Ser Val Pro Val Val Arg Asn Ala Ala Leu Phe Trp
 485 490 495
 Trp Asn Leu His Arg Ser Gly Glu Gly Asp Ser Asp Thr Leu His
 500 505 510
 Ala Gly Cys Pro Val Leu Val Gly Asp Lys Trp Val Ala Asn Lys
 515 520 525
 Trp Ile His Glu Tyr Gly Gln Glu Phe Arg Arg Pro Cys Ser Ser

530

535

540

Ser Pro Glu Asp

<210> 119
<211> 23
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.

<400> 119
cgggacagga gacccagaaa ggg 23

<210> 120
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 120
ggccaagtga tccaaggcat cttc 24

<210> 121
<211> 49
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-49
<223> Synthetic construct.

<400> 121
ctgcgggacc tgacttagatt ctacgacaag gtactttctt tgcattgggg 49

<210> 122
<211> 1778
<212> DNA
<213> Homo sapiens

<400> 122
gagataggga gtctgggtt aagttcctgc tccatctcag gagcccctgc 50
tccccacccct aggaagccac cagactccac ggtgtggggc caatcaggtg 100
gaatcggccc tggcaggtgg ggccacgagc gctggctgag ggaccgagcc 150
ggagagcccc ggagcccccg taacccgcgc ggggagcgcc caggatgccg 200

cgcggggact cggagcagg tgcgtactgc gcgcgcttct cctacctctg 250
gctcaagttt tcacttatca tctattccac cgtgttctgg ctgattgggg 300
ccctggtcct gtctgtggc atctatgcag aggttgagcg gcagaaatat 350
aaaacccttga aagtgcctt cctggctcca gccatcatcc tcatacctcct 400
gggcgtcgta atgttcatgg tctccttcattt tggtgtgctg gcgtccctcc 450
gtgacaacctt gtaccttctc caagcattca tgtacatcct tggatctgc 500
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gaccatttgc ttccctgaacg acaacattcg aagaggaatt gagaactact 600
atgatgatct ggacttcaaa aacatcatgg actttgttca gaaaaagttc 650
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cgactgcagt gcccctggac ccctggcctg tgggggtcccc tacacctgct 750
gcatcaggaa cacgacagaa gttgtcaaca ccatgtgtgg ctacaaaact 800
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caccaacgccc gtgatcatct gtttcatggaa caactacacc atcatggcgt 900
gcatcctcctt gggcatcctg cttcccccagt tcctgggggt gctgctgacg 950
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tccttgagcc tagttttttt ttacgtgatt tttgttaacat tcattttttt 1650

gtacagataa caggagttc tgactaatca aagctggat ttcccccgc 1700
gtcttattct tgcccttccc ccaaccagg ttgttaatcaa acaataaaaa 1750
catgtttgt tttgtttta aaaaaaaaa 1778

<210> 123
<211> 294
<212> PRT
<213> Homo sapiens

<400> 123
Met Pro Arg Gly Asp Ser Glu Gln Val Arg Tyr Cys Ala Arg Phe
1 5 10 15
Ser Tyr Leu Trp Leu Lys Phe Ser Leu Ile Ile Tyr Ser Thr Val
20 25 30
Phe Trp Leu Ile Gly Ala Leu Val Leu Ser Val Gly Ile Tyr Ala
35 40 45
Glu Val Glu Arg Gln Lys Tyr Lys Thr Leu Glu Ser Ala Phe Leu
50 55 60
Ala Pro Ala Ile Ile Leu Ile Leu Gly Val Val Met Phe Met
65 70 75
Val Ser Phe Ile Gly Val Leu Ala Ser Leu Arg Asp Asn Leu Tyr
80 85 90
Leu Leu Gln Ala Phe Met Tyr Ile Leu Gly Ile Cys Leu Ile Met
95 100 105
Glu Leu Ile Gly Gly Val Val Ala Leu Thr Phe Arg Asn Gln Thr
110 115 120
Ile Asp Phe Leu Asn Asp Asn Ile Arg Arg Gly Ile Glu Asn Tyr
125 130 135
Tyr Asp Asp Leu Asp Phe Lys Asn Ile Met Asp Phe Val Gln Lys
140 145 150
Lys Phe Lys Cys Cys Gly Gly Glu Asp Tyr Arg Asp Trp Ser Lys
155 160 165
Asn Gln Tyr His Asp Cys Ser Ala Pro Gly Pro Leu Ala Cys Gly
170 175 180
Val Pro Tyr Thr Cys Cys Ile Arg Asn Thr Thr Glu Val Val Asn
185 190 195
Thr Met Cys Gly Tyr Lys Thr Ile Asp Lys Glu Arg Phe Ser Val
200 205 210
Gln Asp Val Ile Tyr Val Arg Gly Cys Thr Asn Ala Val Ile Ile
215 220 225
Trp Phe Met Asp Asn Tyr Thr Ile Met Ala Cys Ile Leu Leu Gly

230 235 240

Ile Leu Leu Pro Gln Phe Leu Gly Val Leu Leu Thr Leu Leu Tyr
245 250 255

Ile Thr Arg Val Glu Asp Ile Ile Met Glu His Ser Val Thr Asp
260 265 270

Gly Leu Leu Gly Pro Gly Ala Lys Pro Ser Val Glu Ala Ala Gly
275 280 285

Thr Gly Cys Cys Leu Cys Tyr Pro Asn
290

<210> 124
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.

<400> 124
atcatctatt ccaccgtgtt ctggc 25

<210> 125
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.

<400> 125
gacagagtgc tccatgatga tgtcc 25

<210> 126
<211> 50
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.

<400> 126
cctgtctgtg ggcatctatg cagaggttga gcggcagaaa tataaaaccc 50

<210> 127
<211> 1636
<212> DNA
<213> Homo sapiens

<400> 127

gaggagcggg ccgaggactc cagcgtgcc aggtctggca tcctgcactt 50
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tgcagttctc atcctcgcc caaaagtcat caaagaaaag ctgacacagg 200
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agtgccatgc gggaaaagcc agccggaggc atccctgtgc tggcagcct 300
ggtaaacacc gtcctgaagc acatcatctg gctgaaggc atcacagcta 350
acatcctcca gctgcaggtg aagccctcg ccaatgacca ggagctgcta 400
gtcaagatcc ccctggacat ggtggctgga ttcaacacgc ccctggtaa 450
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<210> 128

<211> 484

<212> PRT

<213> Homo sapiens

<400> 128

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Gly | Pro | Trp | Thr | Phe | Thr | Leu | Leu | Cys | Gly | Leu | Leu | Ala |
| 1 | | | | 5 | | | | 10 | | | | 15 | | |
| Ala | Thr | Leu | Ile | Gln | Ala | Thr | Leu | Ser | Pro | Thr | Ala | Val | Leu | Ile |
| | | | | 20 | | | | 25 | | | | 30 | | |
| Leu | Gly | Pro | Lys | Val | Ile | Lys | Glu | Lys | Leu | Thr | Gln | Glu | Leu | Lys |
| | | | | 35 | | | | 40 | | | | 45 | | |
| Asp | His | Asn | Ala | Thr | Ser | Ile | Leu | Gln | Gln | Leu | Pro | Leu | Leu | Ser |
| | | | | 50 | | | | 55 | | | | 60 | | |
| Ala | Met | Arg | Glu | Lys | Pro | Ala | Gly | Gly | Ile | Pro | Val | Leu | Gly | Ser |
| | | | | 65 | | | | 70 | | | | 75 | | |
| Leu | Val | Asn | Thr | Val | Leu | Lys | His | Ile | Ile | Trp | Leu | Lys | Val | Ile |
| | | | | 80 | | | | 85 | | | | 90 | | |
| Thr | Ala | Asn | Ile | Leu | Gln | Leu | Gln | Val | Lys | Pro | Ser | Ala | Asn | Asp |
| | | | | 95 | | | | 100 | | | | 105 | | |
| Gln | Glu | Leu | Leu | Val | Lys | Ile | Pro | Leu | Asp | Met | Val | Ala | Gly | Phe |
| | | | | 110 | | | | 115 | | | | 120 | | |
| Asn | Thr | Pro | Leu | Val | Lys | Thr | Ile | Val | Glu | Phe | His | Met | Thr | Thr |
| | | | | 125 | | | | 130 | | | | 135 | | |
| Glu | Ala | Gln | Ala | Thr | Ile | Arg | Met | Asp | Thr | Ser | Ala | Ser | Gly | Pro |
| | | | | 140 | | | | 145 | | | | 150 | | |
| Thr | Arg | Leu | Val | Leu | Ser | Asp | Cys | Ala | Thr | Ser | His | Gly | Ser | Leu |
| | | | | 155 | | | | 160 | | | | 165 | | |
| Arg | Ile | Gln | Leu | Leu | Tyr | Lys | Leu | Ser | Phe | Leu | Val | Asn | Ala | Leu |
| | | | | 170 | | | | 175 | | | | 180 | | |
| Ala | Lys | Gln | Val | Met | Asn | Leu | Leu | Val | Pro | Ser | Leu | Pro | Asn | Leu |
| | | | | 185 | | | | 190 | | | | 195 | | |
| Val | Lys | Asn | Gln | Leu | Cys | Pro | Val | Ile | Glu | Ala | Ser | Phe | Asn | Gly |
| | | | | 200 | | | | 205 | | | | 210 | | |
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| | | | | 215 | | | | 220 | | | | 225 | | |

Ser Ile Asp Arg Leu Glu Phe Asp Leu Leu Tyr Pro Ala Ile Lys
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 Gly Asp Thr Ile Gln Leu Tyr Leu Gly Ala Lys Leu Leu Asp Ser
 245 250 255
 Gln Gly Lys Val Thr Lys Trp Phe Asn Asn Ser Ala Ala Ser Leu
 260 265 270
 Thr Met Pro Thr Leu Asp Asn Ile Pro Phe Ser Leu Ile Val Ser
 275 280 285
 Gln Asp Val Val Lys Ala Ala Val Ala Ala Val Leu Ser Pro Glu
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 Glu Phe Met Val Leu Leu Asp Ser Val Leu Pro Glu Ser Ala His
 305 310 315
 Arg Leu Lys Ser Ser Ile Gly Leu Ile Asn Glu Lys Ala Ala Asp
 320 325 330
 Lys Leu Gly Ser Thr Gln Ile Val Lys Ile Leu Thr Gln Asp Thr
 335 340 345
 Pro Glu Phe Phe Ile Asp Gln Gly His Ala Lys Val Ala Gln Leu
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 Ile Val Leu Glu Val Phe Pro Ser Ser Glu Ala Leu Arg Pro Leu
 365 370 375
 Phe Thr Leu Gly Ile Glu Ala Ser Ser Glu Ala Gln Phe Tyr Thr
 380 385 390
 Lys Gly Asp Gln Leu Ile Leu Asn Leu Asn Asn Ile Ser Ser Asp
 395 400 405
 Arg Ile Gln Leu Met Asn Ser Gly Ile Gly Trp Phe Gln Pro Asp
 410 415 420
 Val Leu Lys Asn Ile Ile Thr Glu Ile Ile His Ser Ile Leu Leu
 425 430 435
 Pro Asn Gln Asn Gly Lys Leu Arg Ser Gly Val Pro Val Ser Leu
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 Pro Val Ser Gln

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<211> 2213
<212> DNA
<213> *Homo sapiens*

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<210> 130

<211> 335

<212> PRT

<213> Homo sapiens

<400> 130

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Arg | Trp | Arg | Phe | Trp | Cys | Val | Ser | Val | Thr | Met | Val |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ala | Leu | Leu | Ile | Val | Cys | Asp | Val | Pro | Ser | Ala | Ser | Ala | Gln |
| | | | | 20 | | | | 25 | | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Lys | Lys | Glu | Met | Val | Leu | Ser | Glu | Lys | Val | Ser | Gln | Leu | Met |
| | | | | 35 | | | | 40 | | | | | 45 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Trp | Thr | Asn | Lys | Arg | Pro | Val | Ile | Arg | Met | Asn | Gly | Asp | Lys |
| | | | | 50 | | | | 55 | | | | | 60 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Arg | Arg | Leu | Val | Lys | Ala | Pro | Pro | Arg | Asn | Tyr | Ser | Val | Ile |
| | | | | 65 | | | | 70 | | | | | 75 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Met | Phe | Thr | Ala | Leu | Gln | Leu | His | Arg | Gln | Cys | Val | Val | Cys |
| | | | | | 80 | | | 85 | | | | | 90 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Gln | Ala | Asp | Glu | Glu | Phe | Gln | Ile | Leu | Ala | Asn | Ser | Trp | Arg |
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 Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser
 125 130 135
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 140 145 150
 Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu Gln
 155 160 165
 Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val
 170 175 180
 Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu
 185 190 195
 Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser Asn Met
 200 205 210
 Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys
 215 220 225
 Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg
 230 235 240
 Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn
 245 250 255
 Tyr Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His
 260 265 270
 Ile Val Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu
 275 280 285
 Leu Cys Glu Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys
 290 295 300
 Ile Met Cys Val Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser
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 Ser Phe Leu Met Ser
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<210> 131
 <211> 2476
 <212> DNA
 <213> Homo sapiens

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cttggcgctg gcggtaactgg ccccccggagc agggggagcag aggccggagag 200
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 <211> 536
 <212> PRT
 <213> Homo sapiens

<400> 132
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 35 40 45
 Leu Thr Phe His Pro Gly Ser Gln Val Val Lys Leu Pro Phe Ile
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 Asn Phe Met Lys Thr Arg Gly Thr Ser Phe Leu Asn Ala Tyr Thr
 65 70 75

Asn Ser Pro Ile Cys Cys Pro Ser Arg Ala Ala Met Trp Ser Gly
 80 85 90
 Leu Phe Thr His Leu Thr Glu Ser Trp Asn Asn Phe Lys Gly Leu
 95 100 105
 Asp Pro Asn Tyr Thr Thr Trp Met Asp Val Met Glu Arg His Gly
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 Tyr Arg Thr Gln Lys Phe Gly Lys Leu Asp Tyr Thr Ser Gly His
 125 130 135
 His Ser Ile Ser Asn Arg Val Glu Ala Trp Thr Arg Asp Val Ala
 140 145 150
 Phe Leu Leu Arg Gln Glu Gly Arg Pro Met Val Asn Leu Ile Arg
 155 160 165
 Asn Arg Thr Lys Val Arg Val Met Glu Arg Asp Trp Gln Asn Thr
 170 175 180
 Asp Lys Ala Val Asn Trp Leu Arg Lys Glu Ala Ile Asn Tyr Thr
 185 190 195
 Glu Pro Phe Val Ile Tyr Leu Gly Leu Asn Leu Pro His Pro Tyr
 200 205 210
 Pro Ser Pro Ser Ser Gly Glu Asn Phe Gly Ser Ser Thr Phe His
 215 220 225
 Thr Ser Leu Tyr Trp Leu Glu Lys Val Ser His Asp Ala Ile Lys
 230 235 240
 Ile Pro Lys Trp Ser Pro Leu Ser Glu Met His Pro Val Asp Tyr
 245 250 255
 Tyr Ser Ser Tyr Thr Lys Asn Cys Thr Gly Arg Phe Thr Lys Lys
 260 265 270
 Glu Ile Lys Asn Ile Arg Ala Phe Tyr Tyr Ala Met Cys Ala Glu
 275 280 285
 Thr Asp Ala Met Leu Gly Glu Ile Ile Leu Ala Leu His Gln Leu
 290 295 300
 Asp Leu Leu Gln Lys Thr Ile Val Ile Tyr Ser Ser Asp His Gly
 305 310 315
 Glu Leu Ala Met Glu His Arg Gln Phe Tyr Lys Met Ser Met Tyr
 320 325 330
 Glu Ala Ser Ala His Val Pro Leu Leu Met Met Gly Pro Gly Ile
 335 340 345
 Lys Ala Gly Leu Gln Val Ser Asn Val Val Ser Leu Val Asp Ile
 350 355 360
 Tyr Pro Thr Met Leu Asp Ile Ala Gly Ile Pro Leu Pro Gln Asn

| 365 | 370 | 375 |
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| 380 | 385 | 390 |
| Asn Glu His Lys Val Lys Asn | Leu His Pro Pro Trp Ile | Leu Ser |
| 395 | 400 | 405 |
| Glu Phe His Gly Cys Asn Val Asn Ala Ser | Thr Tyr Met Leu Arg | |
| 410 | 415 | 420 |
| Thr Asn His Trp Lys Tyr Ile Ala Tyr | Ser Asp Gly Ala Ser | Ile |
| 425 | 430 | 435 |
| Leu Pro Gln Leu Phe Asp Leu Ser Ser | Asp Pro Asp Glu Leu | Thr |
| 440 | 445 | 450 |
| Asn Val Ala Val Lys Phe Pro Glu Ile | Thr Tyr Ser Leu Asp | Gln |
| 455 | 460 | 465 |
| Lys Leu His Ser Ile Ile Asn Tyr Pro | Lys Val Ser Ala Ser | Val |
| 470 | 475 | 480 |
| His Gln Tyr Asn Lys Glu Gln Phe Ile | Lys Trp Lys Gln Ser | Ile |
| 485 | 490 | 495 |
| Gly Gln Asn Tyr Ser Asn Val Ile Ala | Asn Leu Arg Trp His | Gln |
| 500 | 505 | 510 |
| Asp Trp Gln Lys Glu Pro Arg Lys Tyr | Glu Asn Ala Ile Asp | Gln |
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| Trp Leu Lys Thr His Met Asn Pro Arg | Ala Val | |
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<210> 133

<211> 1475

<212> DNA

<213> Homo sapiens

<400> 133

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<210> 134

<211> 230

<212> PRT

<213> Homo sapiens

<400> 134

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35 40 45

Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly

| 50 | 55 | 60 |
|---|-------------------------|-----|
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| 65 | 70 | 75 |
| Asp Ile Gln Ala Ala Gln Ala Met Met Val | Thr Ser Ser Ala Ile | |
| 80 | 85 | 90 |
| Ser Ser Leu Ala Cys Ile Ile Ser Val Val | Gly Met Arg Cys Thr | |
| 95 | 100 | 105 |
| Val Phe Cys Gln Glu Ser Arg Ala Lys | Asp Arg Val Ala Val Ala | |
| 110 | 115 | 120 |
| Gly Gly Val Phe Phe Ile Leu Gly Gly | Leu Leu Gly Phe Ile Pro | |
| 125 | 130 | 135 |
| Val Ala Trp Asn Leu His Gly Ile Leu Arg | Asp Phe Tyr Ser Pro | |
| 140 | 145 | 150 |
| Leu Val Pro Asp Ser Met Lys Phe Glu | Ile Gly Glu Ala Leu Tyr | |
| 155 | 160 | 165 |
| Leu Gly Ile Ile Ser Ser Leu Phe Ser | Leu Ile Ala Gly Ile Ile | |
| 170 | 175 | 180 |
| Leu Cys Phe Ser Cys Ser Ser Gln Arg | Asn Arg Ser Asn Tyr Tyr | |
| 185 | 190 | 195 |
| Asp Ala Tyr Gln Ala Gln Pro Leu Ala | Thr Arg Ser Ser Pro Arg | |
| 200 | 205 | 210 |
| Pro Gly Gln Pro Pro Lys Val Lys Ser | Glu Phe Asn Ser Tyr Ser | |
| 215 | 220 | 225 |
| Leu Thr Gly Tyr Val | | |
| 230 | | |

<210> 135

<211> 610

<212> DNA

<213> Homo sapiens

<400> 135

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<210> 136
<211> 119
<212> PRT
<213> Homo sapiens

<400> 136
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Pro Trp Leu Cys Gln Pro Ala Pro Arg Cys Gly Asp Lys Ile Tyr
35 40 45
Asn Pro Leu Glu Gln Cys Cys Tyr Asn Asp Ala Ile Val Ser Leu
50 55 60
Ser Glu Thr Arg Gln Cys Gly Pro Pro Cys Thr Phe Trp Pro Cys
65 70 75
Phe Glu Leu Cys Cys Leu Asp Ser Phe Gly Leu Thr Asn Asp Phe
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Val Val Lys Leu Lys Val Gln Gly Val Asn Ser Gln Cys His Ser
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Ser Pro Ile Ser Ser Lys Cys Glu Ser Arg Arg Arg Phe Pro
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<210> 137
<211> 771
<212> DNA
<213> Homo sapiens

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<210> 138

<211> 110

<212> PRT

<213> Homo sapiens

<400> 138

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Pro | Arg | Gly | Cys | Ile | Val | Ala | Val | Phe | Ala | Ile | Phe | Cys |
| 1 | | | | 5 | | | | 10 | | | | 15 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ser | Arg | Leu | Leu | Cys | Ser | His | Gly | Ala | Pro | Val | Ala | Pro | Met |
| | | | | 20 | | | | 25 | | | | 30 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Tyr | Leu | Met | Leu | Cys | Gln | Pro | His | Lys | Arg | Cys | Gly | Asp |
| | | | | 35 | | | | 40 | | | 45 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Phe | Tyr | Asp | Pro | Leu | Gln | His | Cys | Cys | Tyr | Asp | Asp | Ala | Val |
| | | | | 50 | | | | 55 | | | 60 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Leu | Ala | Arg | Thr | Gln | Thr | Cys | Gly | Asn | Cys | Thr | Phe | Arg |
| | | | | 65 | | | | 70 | | | 75 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Cys | Phe | Glu | Gln | Cys | Cys | Pro | Trp | Thr | Phe | Met | Val | Lys | Leu |
| | | | | 80 | | | | 85 | | | 90 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Asn | Gln | Asn | Cys | Asp | Ser | Ala | Arg | Thr | Ser | Asp | Asp | Arg | Leu |
| | | | | 95 | | | | 100 | | | 105 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|
| Cys | Arg | Ser | Val | Ser | | | | | | | | | | |
| | | | | 110 | | | | | | | | | | |

<210> 139

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 139

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<210> 140

<211> 311

<212> PRT

<213> Homo sapiens

<400> 140

Met Gly Val Pro Thr Ala Leu Glu Ala Gly Ser Trp Arg Trp Gly
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Ser Leu Leu Phe Ala Leu Phe Leu Ala Ala Ser Leu Gly Pro Val
20 25 30

Ala Ala Phe Lys Val Ala Thr Pro Tyr Ser Leu Tyr Val Cys Pro
35 40 45

Glu Gly Gln Asn Val Thr Leu Thr Cys Arg Leu Leu Gly Pro Val
50 55 60

Asp Lys Gly His Asp Val Thr Phe Tyr Lys Thr Trp Tyr Arg Ser
65 70 75

Ser Arg Gly Glu Val Gln Thr Cys Ser Glu Arg Arg Pro Ile Arg
80 85 90

Asn Leu Thr Phe Gln Asp Leu His His Gly Gly His Gln
95 100 105

Ala Ala Asn Thr Ser His Asp Leu Ala Gln Arg His Gly Leu Glu
110 115 120

Ser Ala Ser Asp His His Gly Asn Phe Ser Ile Thr Met Arg Asn
125 130 135

Leu Thr Leu Leu Asp Ser Gly Leu Tyr Cys Cys Leu Val Val Glu

| | | | |
|---|-----|-----|-----|
| | 140 | 145 | 150 |
| Ile Arg His His His Ser Glu His Arg Val His Gly Ala Met Glu | | | |
| 155 | 160 | 165 | |
| Leu Gln Val Gln Thr Gly Lys Asp Ala Pro Ser Asn Cys Val Val | | | |
| 170 | 175 | 180 | |
| Tyr Pro Ser Ser Ser Gln Asp Ser Glu Asn Ile Thr Ala Ala Ala | | | |
| 185 | 190 | 195 | |
| Leu Ala Thr Gly Ala Cys Ile Val Gly Ile Leu Cys Leu Pro Leu | | | |
| 200 | 205 | 210 | |
| Ile Leu Leu Leu Val Tyr Lys Gln Arg Gln Ala Ala Ser Asn Arg | | | |
| 215 | 220 | 225 | |
| Arg Ala Gln Glu Leu Val Arg Met Asp Ser Asn Ile Gln Gly Ile | | | |
| 230 | 235 | 240 | |
| Glu Asn Pro Gly Phe Glu Ala Ser Pro Pro Ala Gln Gly Ile Pro | | | |
| 245 | 250 | 255 | |
| Glu Ala Lys Val Arg His Pro Leu Ser Tyr Val Ala Gln Arg Gln | | | |
| 260 | 265 | 270 | |
| Pro Ser Glu Ser Gly Arg His Leu Leu Ser Glu Pro Ser Thr Pro | | | |
| 275 | 280 | 285 | |
| Leu Ser Pro Pro Gly Pro Gly Asp Val Phe Phe Pro Ser Leu Asp | | | |
| 290 | 295 | 300 | |
| Pro Val Pro Asp Ser Pro Asn Phe Glu Val Ile | | | |
| 305 | 310 | | |

<210> 141

<211> 1732

<212> DNA

<213> Homo sapiens

<400> 141

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1017472101

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<210> 142
<211> 451
<212> PRT
<213> Homo sapiens

<400> 142

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 20 25 30

Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser
 35 40 45

Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg
 50 55 60

Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His
 65 70 75

Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln
 80 85 90

Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg
 95 100 105

Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His
 110 115 120

Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro
 125 130 135

Asn Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys
 140 145 150

Gly Leu Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro
 155 160 165

Leu Pro Asp Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu
 170 175 180

Gln Ser Asp Glu Glu Asp Ser Val Gln Ser Leu His Gly Val Arg
 185 190 195

His Pro Gln Asp Pro Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly
 200 205 210

Pro Gly Thr Pro Ala Pro Thr Gly Leu Ser Ala Pro Leu Ser Phe
 215 220 225

Ile Pro Arg His Phe Arg Pro Lys Gly Ala Gly Ser Thr Thr Val
 230 235 240

Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala Cys Val His Gly
 245 250 255

Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro Ala Phe Arg
 260 265 270

Ala Phe Gly Pro Leu Pro Cys Ile Leu Cys Thr Cys Glu Asp Gly
 275 280 285

Arg Gln Asp Cys Gln Arg Val Thr Cys Pro Thr Glu Tyr Pro Cys

| | | |
|---|-----|-----|
| 290 | 295 | 300 |
| Arg His Pro Glu Lys Val Ala Gly Lys Cys Cys Lys Ile Cys Pro | | |
| 305 | 310 | 315 |
| Glu Asp Lys Ala Asp Pro Gly His Ser Glu Ile Ser Ser Thr Arg | | |
| 320 | 325 | 330 |
| Cys Pro Lys Ala Pro Gly Arg Val Leu Val His Thr Ser Val Ser | | |
| 335 | 340 | 345 |
| Pro Ser Pro Asp Asn Leu Arg Arg Phe Ala Leu Glu His Glu Ala | | |
| 350 | 355 | 360 |
| Ser Asp Leu Val Glu Ile Tyr Leu Trp Lys Leu Val Lys Asp Glu | | |
| 365 | 370 | 375 |
| Glu Thr Glu Ala Gln Arg Gly Glu Val Pro Gly Pro Arg Pro His | | |
| 380 | 385 | 390 |
| Ser Gln Asn Leu Pro Leu Asp Ser Asp Gln Glu Ser Gln Glu Ala | | |
| 395 | 400 | 405 |
| Arg Leu Pro Glu Arg Gly Thr Ala Leu Pro Thr Ala Arg Trp Pro | | |
| 410 | 415 | 420 |
| Pro Arg Arg Ser Leu Glu Arg Leu Pro Ser Pro Asp Pro Gly Ala | | |
| 425 | 430 | 435 |
| Glu Gly His Gly Gln Ser Arg Gln Ser Asp Gln Asp Ile Thr Lys | | |
| 440 | 445 | 450 |

Thr

<210> 143
<211> 693
<212> DNA
<213> Homo sapiens

<400> 143
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<210> 144
<211> 93
<212> PRT
<213> Homo sapiens

<400> 144
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Gly Glu Arg Arg Lys Gln Glu Met Leu Lys Glu Met Pro Leu Gln
35 40 45
Asp Pro Arg Ser Arg Glu Glu Ala Ala Arg Thr Gln Gln Leu Leu
50 55 60
Leu Ala Thr Leu Gln Glu Ala Ala Thr Thr Gln Glu Asn Val Ala
65 70 75
Trp Arg Lys Asn Trp Met Val Gly Gly Glu Gly Ala Ser Gly
80 85 90
Arg Ser Pro

<210> 145
<211> 1883
<212> DNA
<213> Homo sapiens

<400> 145
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aaaaatccac aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1850

aaaaaaaaaaa aaaaaaaaaaa aaaaaaaaaaa aaa 1883

<210> 146

<211> 406

<212> PRT

<213> Homo sapiens

<400> 146

Met Gly Pro Ser Thr Pro Leu Leu Ile Leu Phe Leu Leu Ser Trp
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20 25 30

Glu Arg Arg Leu Ala Ala Leu Glu Glu Arg Leu Ala Gln Cys Gln
35 40 45

Asp Gln Ser Ser Arg His Ala Ala Glu Leu Arg Asp Phe Lys Asn
50 55 60

Lys Met Leu Pro Leu Leu Glu Val Ala Glu Lys Glu Arg Glu Ala
65 70 75

Leu Arg Thr Glu Ala Asp Thr Ile Ser Gly Arg Val Asp Arg Leu
80 85 90

Glu Arg Glu Val Asp Tyr Leu Glu Thr Gln Asn Pro Ala Leu Pro
95 100 105

Cys Val Glu Phe Asp Glu Lys Val Thr Gly Gly Pro Gly Thr Lys
110 115 120

Gly Lys Gly Arg Arg Asn Glu Lys Tyr Asp Met Val Thr Asp Cys
125 130 135

Gly Tyr Thr Ile Ser Gln Val Arg Ser Met Lys Ile Leu Lys Arg
140 145 150

Phe Gly Gly Pro Ala Gly Leu Trp Thr Lys Asp Pro Leu Gly Gln
155 160 165

Thr Glu Lys Ile Tyr Val Leu Asp Gly Thr Gln Asn Asp Thr Ala
170 175 180

Phe Val Phe Pro Arg Leu Arg Asp Phe Thr Leu Ala Met Ala Ala
185 190 195

Arg Lys Ala Ser Arg Val Arg Val Pro Phe Pro Trp Val Gly Thr
200 205 210

Gly Gln Leu Val Tyr Gly Gly Phe Leu Tyr Phe Ala Arg Arg Pro
215 220 225

Pro Gly Arg Pro Gly Gly Gly Glu Met Glu Asn Thr Leu Gln
230 235 240

Leu Ile Lys Phe His Leu Ala Asn Arg Thr Val Val Asp Ser Ser
245 250 255

Val Phe Pro Ala Glu Gly Leu Ile Pro Pro Tyr Gly Leu Thr Ala
260 265 270

Asp Thr Tyr Ile Asp Leu Val Ala Asp Glu Glu Gly Leu Trp Ala
275 280 285

Val Tyr Ala Thr Arg Glu Asp Asp Arg His Leu Cys Leu Ala Lys
290 295 300

Leu Asp Pro Gln Thr Leu Asp Thr Glu Gln Gln Trp Asp Thr Pro
305 310 315

Cys Pro Arg Glu Asn Ala Glu Ala Ala Phe Val Ile Cys Gly Thr
320 325 330

Leu Tyr Val Val Tyr Asn Thr Arg Pro Ala Ser Arg Ala Arg Ile
335 340 345

Gln Cys Ser Phe Asp Ala Ser Gly Thr Leu Thr Pro Glu Arg Ala
350 355 360

Ala Leu Pro Tyr Phe Pro Arg Arg Tyr Gly Ala His Ala Ser Leu
365 370 375

Arg Tyr Asn Pro Arg Glu Arg Gln Leu Tyr Ala Trp Asp Asp Gly
380 385 390

Tyr Gln Ile Val Tyr Lys Leu Glu Met Arg Lys Lys Glu Glu Glu
395 400 405

Val

<210> 147
<211> 2052
<212> DNA
<213> Homo sapiens

<400> 147
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gttctcctct tctctcta at ccatccgtca cctctcctgt catccgttcc 150
catgccgtga ggtccattca cagaacacat ccatggctct catgctcagt 200
ttggttctga gtctcctcaa gctggatca gggcagtggc aggtgtttgg 250
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aa 2052

<210> 148
<211> 500
<212> PRT
<213> Homo sapiens

<400> 148
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20 25 30
Leu Val Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys
35 40 45
Thr Asn Ala Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe
50 55 60
Ser Ser Val Val His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe
65 70 75
Met Gln Met Pro Gln Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp
80 85 90
Ser Ile Ala Glu Gly Arg Ile Ser Leu Arg Leu Glu Asn Ile Thr
95 100 105
Val Leu Asp Ala Gly Leu Tyr Gly Cys Arg Ile Ser Ser Gln Ser
110 115 120
Tyr Tyr Gln Lys Ala Ile Trp Glu Leu Gln Val Ser Ala Leu Gly
125 130 135
Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr Val Asp Arg Asp Ile
140 145 150
Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe Pro Arg Pro Thr Ala
155 160 165
Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr Asp Ser Arg
170 175 180
Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile Ser Leu
185 190 195
Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg His
200 205 210
Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp
215 220 225
Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu

230 235 240

Gly Ile Leu Cys Cys Gly Leu Phe Phe Gly Ile Val Gly Leu Lys
 245 250 255

Ile Phe Phe Ser Lys Phe Gln Trp Lys Ile Gln Ala Glu Leu Asp
 260 265 270

Trp Arg Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys
 275 280 285

His Ala Val Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys
 290 295 300

Leu Cys Val Ser Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro
 305 310 315

Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val
 320 325 330

Val Ala Ser Gln Ser Phe Gln Ala Gly Lys His Tyr Trp Glu Val
 335 340 345

Asp Gly Gly His Asn Lys Arg Trp Arg Val Gly Val Cys Arg Asp
 350 355 360

Asp Val Asp Arg Arg Lys Glu Tyr Val Thr Leu Ser Pro Asp His
 365 370 375

Gly Tyr Trp Val Leu Arg Leu Asn Gly Glu His Leu Tyr Phe Thr
 380 385 390

Leu Asn Pro Arg Phe Ile Ser Val Phe Pro Arg Thr Pro Pro Thr
 395 400 405

Lys Ile Gly Val Phe Leu Asp Tyr Glu Cys Gly Thr Ile Ser Phe
 410 415 420

Phe Asn Ile Asn Asp Gln Ser Leu Ile Tyr Thr Leu Thr Cys Arg
 425 430 435

Phe Glu Gly Leu Leu Arg Pro Tyr Ile Glu Tyr Pro Ser Tyr Asn
 440 445 450

Glu Gln Asn Gly Thr Pro Ile Val Ile Cys Pro Val Thr Gln Glu
 455 460 465

Ser Glu Lys Glu Ala Ser Trp Gln Arg Ala Ser Ala Ile Pro Glu
 470 475 480

Thr Ser Asn Ser Glu Ser Ser Ser Gln Ala Thr Thr Pro Phe Leu
 485 490 495

Pro Arg Gly Glu Met
 500

<210> 149
<211> 24

<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 149
gcgtggtcca cctctacagg gacg 24

<210> 150
<211> 23
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.

<400> 150
ggaactgacc cagtgctgac acc 23

<210> 151
<211> 45
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.

<400> 151
gcagatgcca cagtatcaag gcaggacaaa actggtaag gattc 45

<210> 152
<211> 2294
<212> DNA
<213> Homo sapiens

<400> 152
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aatgaatggc ggagccgagc gcccattttagt gagcctggcg agcctggcg 150
gcctcgccct gtttgtctgc gccggcgccg ccggccgcgt cgccctcagcc 200
gcctcgccgg ggaatgtcac cgggtggcgcc gggggccgcgg ggcagggttga 250
cgcgatcgccgg ggccccgggt tgccggggcga gcccagccac cccttcccta 300
gggcgacggc tccccacggcc caggccccga ggaccgggcc cccgcgcgcc 350
accgtccacc gacccttggc tgccacttct ccagcccagt ccccgagac 400

caccctctt tggcgactg ctggaccctc ttccaccacc tttcaggcgc 450
cgctcgcccc ctcgcccacc acccctccgg cgccggaacg cacttcgacc 500
acctctcagg cgccgaccag acccgcccg accacccttt cgacgaccac 550
tggccggcg ccgaccaccc ctgtagcgac caccgtaccc ggcacccacga 600
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gggtcataga ttacaaaat attttatata cttttattct cttactttat 1050
atgttatatt taatgtcagg attaaaaac atctaattta ctgatTTtagt 1100
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<210> 153

<211> 258

<212> PRT

<213> Homo sapiens

<400> 153

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Ser | Leu | Pro | Ser | Leu | Gly | Gly | Leu | Ala | Leu | Leu | Cys | Cys |
| 1 | | | | | | | | | | | | | | 15 |
| Ala | Ala | Ala | Ala | Ala | Ala | Val | Ala | Ser | Ala | Ala | Ser | Ala | Gly | Asn |
| | | | | | | 20 | | | 25 | | | | | 30 |
| Val | Thr | Gly | Gly | Gly | Gly | Ala | Ala | Gly | Gln | Val | Asp | Ala | Ser | Pro |
| | | | | | | 35 | | | 40 | | | | | 45 |
| Gly | Pro | Gly | Leu | Arg | Gly | Glu | Pro | Ser | His | Pro | Phe | Pro | Arg | Ala |
| | | | 50 | | | | | | 55 | | | | | 60 |
| Thr | Ala | Pro | Thr | Ala | Gln | Ala | Pro | Arg | Thr | Gly | Pro | Pro | Arg | Ala |
| | | | | | 65 | | | | 70 | | | | | 75 |
| Thr | Val | His | Arg | Pro | Leu | Ala | Ala | Thr | Ser | Pro | Ala | Gln | Ser | Pro |
| | | | | | 80 | | | | 85 | | | | | 90 |
| Glu | Thr | Thr | Pro | Leu | Trp | Ala | Thr | Ala | Gly | Pro | Ser | Ser | Thr | Thr |
| | | | | | 95 | | | | 100 | | | | | 105 |
| Phe | Gln | Ala | Pro | Leu | Gly | Pro | Ser | Pro | Thr | Thr | Pro | Pro | Ala | Ala |
| | | | | 110 | | | | | 115 | | | | | 120 |
| Glu | Arg | Thr | Ser | Thr | Thr | Ser | Gln | Ala | Pro | Thr | Arg | Pro | Ala | Pro |
| | | | | | 125 | | | | 130 | | | | | 135 |
| Thr | Thr | Leu | Ser | Thr | Thr | Thr | Gly | Pro | Ala | Pro | Thr | Thr | Pro | Val |
| | | | | | 140 | | | | 145 | | | | | 150 |
| Ala | Thr | Thr | Val | Pro | Ala | Pro | Thr | Thr | Pro | Arg | Thr | Pro | Thr | Pro |
| | | | | | 155 | | | | 160 | | | | | 165 |
| Asp | Leu | Pro | Ser | Ser | Ser | Asn | Ser | Ser | Val | Leu | Pro | Thr | Pro | Pro |

| | | |
|---|---------------------|-----|
| 170 | 175 | 180 |
| Ala Thr Glu Ala Pro Ser Ser Pro Pro Pro | Glu Tyr Val Cys Asn | |
| 185 | 190 | 195 |
| Cys Ser Val Val Gly Ser Leu Asn Val Asn Arg | Cys Asn Gln Thr | |
| 200 | 205 | 210 |
| Thr Gly Gln Cys Glu Cys Arg Pro Gly Tyr Gln Gly | Leu His Cys | |
| 215 | 220 | 225 |
| Glu Thr Cys Lys Glu Gly Phe Tyr Leu Asn Tyr Thr Ser | Gly Leu | |
| 230 | 235 | 240 |
| Cys Gln Pro Cys Asp Cys Ser Pro His Gly Ala Leu Ser Ile | Pro | |
| 245 | 250 | 255 |

Cys Asn Arg

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<210> 154
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 154
 aactgctctg tggttggaag cctg 24

<210> 155
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 155
 cagtcacatg gctgacagac ccac 24

<210> 156
<211> 38
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-38
<223> Synthetic construct.

<400> 156
 aggttatcag gggcttcaact gtgaaacctg caaagagg 38

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<210> 157
 <211> 689
 <212> DNA
 <213> Homo sapiens

<400> 157
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 ccggaaaag ggcttgcca tggagaagga catgaagaac gtcgtggggg 200
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 gggcccagca ccagctcaga ataaagcgat tccacagca 689

<210> 158
 <211> 163
 <212> PRT
 <213> Homo sapiens

<400> 158
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 20 25 30
 Leu Leu Gly Pro Trp Tyr Val Leu Ala Val Ala Ser Arg Glu Lys
 35 40 45
 Gly Phe Ala Met Glu Lys Asp Met Lys Asn Val Val Gly Val Val
 50 55 60
 Val Thr Leu Thr Pro Glu Asn Asn Leu Arg Thr Leu Ser Ser Gln
 65 70 75
 His Gly Leu Gly Gly Cys Asp Gln Ser Val Met Asp Leu Ile Lys
 80 85 90

Arg Asn Ser Gly Trp Val Phe Glu Asn Pro Ser Ile Gly Val Leu
95 100 105

Glu Leu Trp Val Leu Ala Thr Asn Phe Arg Asp Tyr Ala Ile Ile
110 115 120

Phe Thr Gln Leu Glu Phe Gly Asp Glu Pro Phe Asn Thr Val Glu
125 130 135

Leu Tyr Ser Leu Thr Glu Thr Ala Ser Gln Glu Ala Met Gly Leu
140 145 150

Phe Thr Lys Trp Ser Arg Ser Leu Gly Phe Leu Ser Gln
155 160

<210> 159
<211> 1665
<212> DNA
<213> Homo sapiens

<400> 159
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gtaaaactgct gacgatgcag agttccgtga cggtgcagga aggccctgtgt 150
gtccatgtgc cctgctcctt ctcctacccc tcgcatggct ggatttaccc 200
tggcccagta gttcatggct actggttccg ggaaggggcc aatacagacc 250
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1000X7000 12362

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acagacaaat tccta 1665

<210> 160

<211> 463

<212> PRT

<213> Homo sapiens

<400> 160

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Leu | Leu | Leu | Leu | Pro | Leu | Leu | Trp | Gly | Arg | Glu | Arg | Ala |
| 1 | | | | | 5 | | | | 10 | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Gly | Gln | Thr | Ser | Lys | Leu | Leu | Thr | Met | Gln | Ser | Ser | Val | Thr |
| | | | | | 20 | | | | 25 | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Gln | Glu | Gly | Leu | Cys | Val | His | Val | Pro | Cys | Ser | Phe | Ser | Tyr |
| | | | | 35 | | | | 40 | | | | | 45 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ser | His | Gly | Trp | Ile | Tyr | Pro | Gly | Pro | Val | Val | His | Gly | Tyr |
| | | | | 50 | | | | 55 | | | | 60 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Phe | Arg | Glu | Gly | Ala | Asn | Thr | Asp | Gln | Asp | Ala | Pro | Val | Ala |
| | | | | 65 | | | | 70 | | | | 75 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Asn | Asn | Pro | Ala | Arg | Ala | Val | Trp | Glu | Glu | Thr | Arg | Asp | Arg |
| | | | | 80 | | | | 85 | | | | 90 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | His | Leu | Leu | Gly | Asp | Pro | His | Thr | Lys | Asn | Cys | Thr | Leu | Ser |
| | | | | 95 | | | | 100 | | | | 105 | | |

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Arg

| 110 | 115 | 120 |
|---|-----|-----|
| Met Glu Lys Gly Ser Ile Lys Trp Asn Tyr Lys His His Arg Leu | | |
| 125 | 130 | 135 |
| Ser Val Asn Val Thr Ala Leu Thr His Arg Pro Asn Ile Leu Ile | | |
| 140 | 145 | 150 |
| Pro Gly Thr Leu Glu Ser Gly Cys Pro Gln Asn Leu Thr Cys Ser | | |
| 155 | 160 | 165 |
| Val Pro Trp Ala Cys Glu Gln Gly Thr Pro Pro Met Ile Ser Trp | | |
| 170 | 175 | 180 |
| Ile Gly Thr Ser Val Ser Pro Leu Asp Pro Ser Thr Thr Arg Ser | | |
| 185 | 190 | 195 |
| Ser Val Leu Thr Leu Ile Pro Gln Pro Gln Asp His Gly Thr Ser | | |
| 200 | 205 | 210 |
| Leu Thr Cys Gln Val Thr Phe Pro Gly Ala Ser Val Thr Thr Asn | | |
| 215 | 220 | 225 |
| Lys Thr Val His Leu Asn Val Ser Tyr Pro Pro Gln Asn Leu Thr | | |
| 230 | 235 | 240 |
| Met Thr Val Phe Gln Gly Asp Gly Thr Val Ser Thr Val Leu Gly | | |
| 245 | 250 | 255 |
| Asn Gly Ser Ser Leu Ser Leu Pro Glu Gly Gln Ser Leu Arg Leu | | |
| 260 | 265 | 270 |
| Val Cys Ala Val Asp Ala Val Asp Ser Asn Pro Pro Ala Arg Leu | | |
| 275 | 280 | 285 |
| Ser Leu Ser Trp Arg Gly Leu Thr Leu Cys Pro Ser Gln Pro Ser | | |
| 290 | 295 | 300 |
| Asn Pro Gly Val Leu Glu Leu Pro Trp Val His Leu Arg Asp Ala | | |
| 305 | 310 | 315 |
| Ala Glu Phe Thr Cys Arg Ala Gln Asn Pro Leu Gly Ser Gln Gln | | |
| 320 | 325 | 330 |
| Val Tyr Leu Asn Val Ser Leu Gln Ser Lys Ala Thr Ser Gly Val | | |
| 335 | 340 | 345 |
| Thr Gln Gly Val Val Gly Gly Ala Gly Ala Thr Ala Leu Val Phe | | |
| 350 | 355 | 360 |
| Leu Ser Phe Cys Val Ile Phe Val Val Arg Ser Cys Arg Lys | | |
| 365 | 370 | 375 |
| Lys Ser Ala Arg Pro Ala Ala Gly Val Gly Asp Thr Gly Ile Glu | | |
| 380 | 385 | 390 |
| Asp Ala Asn Ala Val Arg Gly Ser Ala Ser Gln Gly Pro Leu Thr | | |
| 395 | 400 | 405 |

Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln Pro Pro Pro Ala
410 415 420
Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln Tyr Ala Ser
425 430 435
Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly Gln Glu
440 445 450
Ala Thr Asp Thr Glu Tyr Ser Glu Ile Lys Ile His Arg
455 460

<210> 161
<211> 739
<212> DNA
<213> Homo sapiens

<400> 161
gacgcccagt gacctgccga ggtcgccagc acagagctct ggagatgaag 50
accctgttcc tgggtgtcac gctcgccctg gccgctgccc tgtccttcac 100
cctggaggag gaggatatca cagggacctg gtacgtgaag gccatggtgg 150
tcgataagga ctttccggag gacaggaggc ccaggaaggt gtccccagtg 200
aaggtgacag ccctgggcgg tggaaagttg gaagccacgt tcaccttcac 250
gagggaggat cggtgcacatcc agaagaaaaat cctgatgcgg aagacggagg 300
agcctggcaa atacagcgcc tatggggca ggaagctcat gtacctgcag 350
gagctgcccga ggagggacca ctacatctt tactgcaaag accagcacca 400
tgggggcctg ctccacatgg gaaagcttgt gggtaggaat tctgatacca 450
accggggaggc cctggaagaa tttaagaaaat tggtgacgcg caagggactc 500
tcggaggagg acatttcac gcccctgcag acgggaagct gcgttcccga 550
acactaggca gccccgggt ctgcacctcc agagcccacc ctaccaccag 600
acacagagcc cggaccaccc ggacctaccc tccagccatg accctccct 650
gctcccaccc acctgactcc aaataaagtc cttttccccca aaaaaaaaaa 700
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 739

<210> 162
<211> 170
<212> PRT
<213> Homo sapiens

<400> 162
Met Lys Thr Leu Phe Leu Gly Val Thr Leu Gly Leu Ala Ala Ala
1 5 10 15
Leu Ser Phe Thr Leu Glu Glu Asp Ile Thr Gly Thr Trp Tyr

| 20 | 25 | 30 |
|---|-----|-----|
| Val Lys Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg | | |
| 35 | 40 | 45 |
| Pro Arg Lys Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Gly | | |
| 50 | 55 | 60 |
| Lys Leu Glu Ala Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile | | |
| 65 | 70 | 75 |
| Gln Lys Lys Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr | | |
| 80 | 85 | 90 |
| Ser Ala Tyr Gly Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu Pro | | |
| 95 | 100 | 105 |
| Arg Arg Asp His Tyr Ile Phe Tyr Cys Lys Asp Gln His His Gly | | |
| 110 | 115 | 120 |
| Gly Leu Leu His Met Gly Lys Leu Val Gly Arg Asn Ser Asp Thr | | |
| 125 | 130 | 135 |
| Asn Arg Glu Ala Leu Glu Glu Phe Lys Lys Leu Val Gln Arg Lys | | |
| 140 | 145 | 150 |
| Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro Leu Gln Thr Gly Ser | | |
| 155 | 160 | 165 |
| Cys Val Pro Glu His | | |
| 170 | | |

<210> 163
 <211> 22
 <212> DNA
 <213> Artificial

<220>
 <221> Artificial Sequence
 <222> 1-22
 <223> Synthetic construct.

<400> 163
 ggagatgaag accctgttcc tg 22

<210> 164
 <211> 26
 <212> DNA
 <213> Artificial

<220>
 <221> Artificial Sequence
 <222> 1-26
 <223> Synthetic construct.

<400> 164
 ggagatgaag accctgttcc tgggtg 26

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<210> 165
<211> 21
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-21
<223> Synthetic construct.

<400> 165
gtcctccgga aagtccatat c 21

<210> 166
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.

<400> 166
gcctagtggtt cgggaacgca gtttc 25

<210> 167
<211> 50
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.

<400> 167
caggcacctg gtacgtaaag gccatgggtgg tcgataaggaa ctttccggag 50

<210> 168
<211> 45
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.

<400> 168
ctgtccttca ccctggagga ggaggatatc acagggacct ggtac 45

<210> 169
<211> 1204
<212> DNA
<213> Homo sapiens

<400> 169

gttccgcaga tgcagagggt gagggtggctg cgggactgga agtcatcg 50
cagaggtctc acagcagcca aggaacctgg ggcccgcctcc tccccctcc 100
aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggtt 150
gtagggggag agaccaggat catcaagggg ttcgagtgc agcctcactc 200
ccagccctgg caggcagccc tggtcgagaa gacgcggcta ctctgtggg 250
cgacgctcat cgcccccaga tggctcctga cagcagccca ctgcctcaag 300
ccccgctaca tagttcacct gggcagcac aacctccaga aggaggagg 350
ctgtgagcag acccggacag ccactgagtc cttcccccac cccggcttca 400
acaacacgcct ccccaacaaa gaccacccgca atgacatcat gctggtgaag 450
atggcatcgc cagtctccat cacctggct gtgcgacccc tcaccctctc 500
ctcacgctgt gtcactgctg gcaccagctg cctcattcc ggctgggca 550
gcacgtccag cccccagttt cgcctgcctc acaccttgcg atgcgccaac 600
atcaccatca ttgagcacca gaagtgttag aacgcctacc ccggcaacat 650
cacagacacc atggtgtgtg ccagcgtgca ggaagggggc aaggactcct 700
gccagggtga ctccgggggc cctctggct gtaaccagtc tcttcaaggc 750
attatctcct ggggccagga tccgtgtcg atcacccgaa agcctggtgt 800
ctacacgaaa gtctgcaa atgtggactg gatccaggag acgatgaaga 850
acaatttagac tggacccacc caccacagcc catcaccctc cattccact 900
tggtgtttgg ttcctgttca ctctgttaat aagaaaccct aagccaagac 950
cctctacgaa cattctttgg gcctcctgga ctacaggaga tgctgtcact 1000
taataatcaa cctggggttc gaaatcagtg agacctggat tcaaattctg 1050
ccttgaataa ttgtgactct ggaaatgaca acacctggtt tgttctctgt 1100
tgtatccccca gccccaaaga cagctcctgg ccatatatca aggtttcaat 1150
aaatatttgc taaatgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1200
aaaa 1204

<210> 170
<211> 250
<212> PRT
<213> Homo sapiens

<400> 170
Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu
1 5 10 15

Val Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro
 20 25 30

 His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu
 35 40 45

 Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala
 50 55 60

 Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His
 65 70 75

 Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr
 80 85 90

 Glu Ser Phe Pro His Pro Gly Phe Asn Asn Ser Leu Pro Asn Lys
 95 100 105

 Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ala Ser Pro Val
 110 115 120

 Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu Ser Ser Arg Cys
 125 130 135

 Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Ser Thr
 140 145 150

 Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys Ala Asn
 155 160 165

 Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro Gly
 170 175 180

 Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly
 185 190 195

 Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
 200 205 210

 Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala
 215 220 225

 Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
 230 235 240

 Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
 245 250

<210> 171
 <211> 25
 <212> DNA
 <213> Artificial

<220>
 <221> Artificial Sequence
 <222> 1-25
 <223> Synthetic construct.

<400> 171
ggctgcggga ctgaaagtca tcggg 25

<210> 172
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 172
ctccaggcca tgaggattct gcag 24

<210> 173
<211> 18
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.

<400> 173
cctctggtct gtaaccag 18

<210> 174
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 174
tctgtatgt tgccgggta ggcg 24

<210> 175
<211> 25
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.

<400> 175
cgttagaca ccaggtttc gggtg 25

<210> 176
<211> 18
<212> DNA

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<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-18

<223> Synthetic construct.

<400> 176
cccttgatga tcctggtc 18

<210> 177

<211> 50

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-50

<223> Synthetic construct.

<400> 177
aggccatgag gattctgcag ttaatcctgc ttgctctggc aacaggcgtt 50

<210> 178

<211> 43

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-43

<223> Synthetic construct.

<400> 178
gagagaccag' gatcatcaag gggttcgagt gcaaggctca ctc 43

<210> 179

<211> 907

<212> DNA

<213> Homo sapiens

<400> 179
gagcagtgtt ctgctggagc cgatgccaaa aaccatgcat ttcttattca 50
gattcattgt tttcttttat ctgtggggcc tttttactgc tcagagacaa 100
aagaaaagagg agagcaccga agaagtgaaa atagaagttt tgcatcgtcc 150
agaaaaactgc tctaagacaa gcaagaaggg agacctacta aatgccatt 200
atgacggcta cctggctaaa gacggctcga aattctactg cagccggaca 250
caaaatgaag gccaccccaa atgggttgtt cttgggtttg ggcaagtcata 300
aaaaggccta gacattgcta tgacagatat gtgccctgga gaaaagcga 350
aagtagttat acccccattca tttqcatacq qaaagqaagg ctatgcagaa 400

ggcaagattc caccggatgc tacattgatt tttgagattt aactttatgc 450
tgtgacaaa ggaccacgga gcattgagac atttaaacaa atagacatgg 500
acaatgacag gcagctctc aaagccgaga taaacctcta cttgcaaagg 550
gaatttggaa aagatgagaa gccacgtgac aagtcatatc aggatgcagt 600
tttagaagat attttaaga agaatgacca tgatggtgat ggcttcattt 650
ctcccaagga atacaatgta taccaacacg atgaactata gcatatttgc 700
atttctactt ttttttttta gctatttact gtactttatg tataaaacaa 750
agtcactttt ctccaagttt tatttgcstat ttttccccta tgagaagata 800
ttttgatctc cccaatacat tgatttttgtt ataataaatg tgaggctgtt 850
ttgcaaactt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 900
aaaaaaaa 907

<210> 180
<211> 222
<212> PRT
<213> Homo sapiens

<400> 180
Met Pro Lys Thr Met His Phe Leu Phe Arg Phe Ile Val Phe Phe
1 5 10 15
Tyr Leu Trp Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu
20 25 30
Ser Thr Glu Glu Val Lys Ile Glu Val Leu His Arg Pro Glu Asn
35 40 45
Cys Ser Lys Thr Ser Lys Lys Gly Asp Leu Leu Asn Ala His Tyr
50 55 60
Asp Gly Tyr Leu Ala Lys Asp Gly Ser Lys Phe Tyr Cys Ser Arg
65 70 75
Thr Gln Asn Glu Gly His Pro Lys Trp Phe Val Leu Gly Val Gly
80 85 90
Gln Val Ile Lys Gly Leu Asp Ile Ala Met Thr Asp Met Cys Pro
95 100 105
Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser Phe Ala Tyr Gly
110 115 120
Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp Ala Thr Leu
125 130 135
Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro Arg Ser
140 145 150

Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln Leu
155 160 165

Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys
170 175 180

Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu
185 190 195

Asp Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser
200 205 210

Pro Lys Glu Tyr Asn Val Tyr Gln His Asp Glu Leu
215 220

<210> 181
<211> 22
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-22
<223> Synthetic construct.

<400> 181
gtgttctgct ggagccgatg cc 22

<210> 182
<211> 18
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.

<400> 182
gacatggaca atgacagg 18

<210> 183
<211> 18
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.

<400> 183
cctttcagga tgttaggag 18

<210> 184
<211> 18
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.

<400> 184
gatgtctgcc accccaag 18

<210> 185
<211> 27
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-27
<223> Synthetic construct.

<400> 185
gcatcctgat atgacttgtc acgtggc 27

<210> 186
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 186
tacaagaggg aagaggagtt gcac 24

<210> 187
<211> 52
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-52
<223> Synthetic construct.

<400> 187
gcccattatg acggctacct ggctaaagac ggctcgaaat tctactgcag 50
cc 52

<210> 188
<211> 573
<212> DNA
<213> Homo sapiens

<400> 188
cagaaatgca gggaccattg cttttccag gcctctgctt tctgctgagc 50
ctctttggag ctgtgactca gaaaacccaaa acttcctgtg ctaagtgcc 100

cccaaatgct tcctgtgtca ataacactca ctgcacctgc aaccatggat 150
atacttctgg atctggcag aaactattca cattcccctt ggagacatgt 200
aacgccaggc atggcggcgc ggcctgtaa tcccagtct ttgggaagcc 250
aaggcagggtg gatcacctga ggtcaggagt ttgagaccag cctggccaac 300
atagtgaaac cccgtgtcta ctaaaaatac aaaaatcagc cggcggttgt 350
ggtgcatgcc tgcaatccca gttactcggg aggctgaggc aggagaatcg 400
cttgaactca ggaggcagaa gttgcagtga acccagatcc tgccattgca 450
ctccagcatg gatgacagag caagactccg tctaaaaag aaaagatagt 500
ttcttgcgttc atttcgcgac tgccctctca gtgttcctg ggatccccctc 550
ccaaataaag tacttatatt ctc 573

<210> 189

<211> 74

<212> PRT

<213> Homo sapiens

<400> 189

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Gly | Pro | Leu | Leu | Leu | Pro | Gly | Leu | Cys | Phe | Leu | Leu | Ser |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Phe | Gly | Ala | Val | Thr | Gln | Lys | Thr | Lys | Thr | Ser | Cys | Ala | Lys |
| | | | | 20 | | | | 25 | | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Pro | Pro | Asn | Ala | Ser | Cys | Val | Asn | Asn | Thr | His | Cys | Thr | Cys |
| | | | | 35 | | | | 40 | | | | 45 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Asn | His | Gly | Tyr | Thr | Ser | Gly | Gln | Lys | Leu | Phe | Thr | Phe | | |
| | | | 50 | | | | | 55 | | | 60 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Pro | Leu | Glu | Thr | Cys | Asn | Ala | Arg | His | Gly | Gly | Ser | Arg | Leu | |
| | | | | 65 | | | | 70 | | | | | | |

<210> 190

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 190

agggaccatt gcttcttcca ggcc 24

<210> 191

<211> 24

<212> DNA

<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 191
cgttacatgt ctccaagggg aatg 24

<210> 192
<211> 50
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.

<400> 192
ccttgctaa gtgcggccca aatgcttcct gtgtcaataa cactcactgc 50

<210> 193
<211> 1091
<212> DNA
<213> Homo sapiens

<400> 193
caagcaggc atccccttgg tgaccttcaa agagaagcag agagggcaga 50
ggtgtggggc acagggaaag ggtgacctct gagattcccc ttttcccca 100
gactttggaa gtgacccacc atggggctca gcattttt gctcctgtgt 150
gttcttgggc tcagccaggc agccacacccg aagatttca atggcactga 200
gtgtggcgt aactcacagc cgtggcaggt ggggctgttt gagggcacca 250
gcctgcgctg cgggggtgtc cttattgacc acaggtgggt cctcacagcg 300
gctcactgca gcggcagcag gtactgggtg cgcctgggg aacacagcct 350
cagccagctc gactggaccg agcagatccg gcacagcggc ttctctgtga 400
cccatcccggtt ctacctggaa gcctcgacga gccacgagca cgacctccgg 450
ctgtctgcggc tgccctgcc cgtcccgta accagcagcg ttcaacccct 500
gcccctgccc aatgactgtg caaccgctgg caccgagtgc cacgtctcag 550
gctggggcat caccaaccac ccacggaaacc cattcccgga tctgctccag 600
tgcctcaacc tctccatcgt ctcccatgcc acctgccatg gtgtgtatcc 650
cgggagaatc acgagcaaca tggtgtgtgc aggccggcgtc ccggggcagg 700
atgcctgccca gggtgattct gggggccccc tggtgtgtgg gggagtcctt 750
caaggtctgg tgcctgggg gtctgtgggg ccctgtggac aagatggcat 800

ccctggagtc tacacctata tttgcaagta tgtggactgg atccggatga 850
tcatgaggaa caactgacct gtttcctcca cctccacccc cacccctaa 900
cttgggtacc cctctggccc tcagagcacc aatatctcct ccatcacttc 950
cccttagctcc actcttggtg gcctggaaac ttcttggAAC tttaactcct 1000
gccagccctt ctaagaccca cgagcgggt gagagaagtg tgcaatagtc 1050
tggaataaat ataaatgaag gaggggcaaa aaaaaaaaaa a 1091

<210> 194

<211> 248

<212> PRT

<213> Homo sapiens

<400> 194

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Met | Gly | Leu | Ser | Ile | Phe | Leu | Leu | Leu | Cys | Val | Leu | Gly | Leu | Ser | 1 | 5 | 10 | 15 |
| Gln | Ala | Ala | Thr | Pro | Lys | Ile | Phe | Asn | Gly | Thr | Glu | Cys | Gly | Arg | 20 | 25 | 30 | |
| Asn | Ser | Gln | Pro | Trp | Gln | Val | Gly | Leu | Phe | Glu | Gly | Thr | Ser | Leu | 35 | 40 | 45 | |
| Arg | Cys | Gly | Gly | Val | Leu | Ile | Asp | His | Arg | Trp | Val | Leu | Thr | Ala | 50 | 55 | 60 | |
| Ala | His | Cys | Ser | Gly | Ser | Arg | Tyr | Trp | Val | Arg | Leu | Gly | Glu | His | 65 | 70 | 75 | |
| Ser | Leu | Ser | Gln | Leu | Asp | Trp | Thr | Glu | Gln | Ile | Arg | His | Ser | Gly | 80 | 85 | 90 | |
| Phe | Ser | Val | Thr | His | Pro | Gly | Tyr | Leu | Gly | Ala | Ser | Thr | Ser | His | 95 | 100 | 105 | |
| Glu | His | Asp | Leu | Arg | Leu | Leu | Arg | Leu | Arg | Leu | Pro | Val | Arg | Val | 110 | 115 | 120 | |
| Thr | Ser | Ser | Val | Gln | Pro | Leu | Pro | Leu | Pro | Asn | Asp | Cys | Ala | Thr | 125 | 130 | 135 | |
| Ala | Gly | Thr | Glu | Cys | His | Val | Ser | Gly | Trp | Gly | Ile | Thr | Asn | His | 140 | 145 | 150 | |
| Pro | Arg | Asn | Pro | Phe | Pro | Asp | Leu | Leu | Gln | Cys | Leu | Asn | Leu | Ser | 155 | 160 | 165 | |
| Ile | Val | Ser | His | Ala | Thr | Cys | His | Gly | Val | Tyr | Pro | Gly | Arg | Ile | 170 | 175 | 180 | |
| Thr | Ser | Asn | Met | Val | Cys | Ala | Gly | Gly | Val | Pro | Gly | Gln | Asp | Ala | 185 | 190 | 195 | |
| Cys | Gln | Gly | Asp | Ser | Gly | Gly | Pro | Leu | Val | Cys | Gly | Gly | Val | Leu | | | | |

EQUITY INVESTMENT FUND

| | | |
|---|-----|-----|
| 200 | 205 | 210 |
| Gln Gly Leu Val Ser Trp Gly Ser Val Gly Pro Cys Gly Gln Asp | | |
| 215 | 220 | 225 |
| Gly Ile Pro Gly Val Tyr Thr Tyr Ile Cys Lys Tyr Val Asp Trp | | |
| 230 | 235 | 240 |
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<212> DNA
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<211> 150

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<213> Homo sapiens

<400> 196

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Pro Glu Lys Leu Thr Ala Phe Lys Glu Lys Tyr Met Glu Phe Asp
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Leu Asn Asn Glu Gly Glu Ile Asp Leu Met Ser Leu Lys Arg Met
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Met Glu Lys Leu Gly Val Pro Lys Thr His Leu Glu Met Lys Lys
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Met Ile Ser Glu Val Thr Gly Gly Val Ser Asp Thr Ile Ser Tyr
95 100 105

Arg Asp Phe Val Asn Met Met Leu Gly Lys Arg Ser Ala Val Leu
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Lys Pro Val Gly Pro Pro Pro Glu Arg Asp Ile Ala Ser Leu Pro
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<210> 197

<211> 4842

<212> DNA

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<211> 1523

<212> PRT

<213> Homo sapiens

<400> 198

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Asp Cys His Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro
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Arg Asn Ala Glu Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg
65 70 75

Ile Thr Lys Met Asp Phe Ala Gly Leu Lys Asn Leu Arg Val Leu
80 85 90

His Leu Glu Asp Asn Gln Val Ser Val Ile Glu Arg Gly Ala Phe
95 100 105

Gln Asp Leu Lys Gln Leu Glu Arg Leu Arg Leu Asn Lys Asn Lys
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Leu Gln Val Leu Pro Glu Leu Leu Phe Gln Ser Thr Pro Lys Leu
125 130 135

Thr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Gly Ile Pro Arg
140 145 150

Lys Ala Phe Arg Gly Ile Thr Asp Val Lys Asn Leu Gln Leu Asp
155 160 165

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 Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Asn Ile Ser Arg
 185 190 195
 Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg Thr Leu
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 Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala Trp
 215 220 225
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 230 235 240
 Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp
 245 250 255
 Val Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro
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 275 280 285
 Cys Ser Asn Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu
 290 295 300
 Ile Pro Ala Asn Leu Pro Glu Gly Ile Val Glu Ile Arg Leu Glu
 305 310 315
 Gln Asn Ser Ile Lys Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr
 320 325 330
 Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys Asn Gln Ile Ser Asp
 335 340 345
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 Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Lys
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 Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn Leu
 395 400 405
 Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys
 410 415 420
 Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala
 425 430 435
 Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu Ala Asp
 440 445 450
 Tyr Leu Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys Ser

| 455 | 460 | 465 |
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| Ser Pro Arg Arg Leu Ala Asn Lys Arg Ile Ser Gln Ile Lys Ser | | |
| 470 | 475 | 480 |
| Lys Lys Phe Arg Cys Ser Gly Ser Glu Asp Tyr Arg Ser Arg Phe | | |
| 485 | 490 | 495 |
| Ser Ser Glu Cys Phe Met Asp Leu Val Cys Pro Glu Lys Cys Arg | | |
| 500 | 505 | 510 |
| Cys Glu Gly Thr Ile Val Asp Cys Ser Asn Gln Lys Leu Val Arg | | |
| 515 | 520 | 525 |
| Ile Pro Ser His Leu Pro Glu Tyr Val Thr Asp Leu Arg Leu Asn | | |
| 530 | 535 | 540 |
| Asp Asn Glu Val Ser Val Leu Glu Ala Thr Gly Ile Phe Lys Lys | | |
| 545 | 550 | 555 |
| Leu Pro Asn Leu Arg Lys Ile Asn Leu Ser Asn Asn Lys Ile Lys | | |
| 560 | 565 | 570 |
| Glu Val Arg Glu Gly Ala Phe Asp Gly Ala Ala Ser Val Gln Glu | | |
| 575 | 580 | 585 |
| Leu Met Leu Thr Gly Asn Gln Leu Glu Thr Val His Gly Arg Val | | |
| 590 | 595 | 600 |
| Phe Arg Gly Leu Ser Gly Leu Lys Thr Leu Met Leu Arg Ser Asn | | |
| 605 | 610 | 615 |
| Leu Ile Ser Cys Val Ser Asn Asp Thr Phe Ala Gly Leu Ser Ser | | |
| 620 | 625 | 630 |
| Val Arg Leu Leu Ser Leu Tyr Asp Asn Arg Ile Thr Thr Ile Thr | | |
| 635 | 640 | 645 |
| Pro Gly Ala Phe Thr Thr Leu Val Ser Leu Ser Thr Ile Asn Leu | | |
| 650 | 655 | 660 |
| Leu Ser Asn Pro Phe Asn Cys Asn Cys His Leu Ala Trp Leu Gly | | |
| 665 | 670 | 675 |
| Lys Trp Leu Arg Lys Arg Arg Ile Val Ser Gly Asn Pro Arg Cys | | |
| 680 | 685 | 690 |
| Gln Lys Pro Phe Phe Leu Lys Glu Ile Pro Ile Gln Asp Val Ala | | |
| 695 | 700 | 705 |
| Ile Gln Asp Phe Thr Cys Asp Gly Asn Glu Glu Ser Ser Cys Gln | | |
| 710 | 715 | 720 |
| Leu Ser Pro Arg Cys Pro Glu Gln Cys Thr Cys Met Glu Thr Val | | |
| 725 | 730 | 735 |
| Val Arg Cys Ser Asn Lys Gly Leu Arg Ala Leu Pro Arg Gly Met | | |
| 740 | 745 | 750 |

Pro Lys Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr
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 Ala Val Pro Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile
 770 775 780
 Asp Leu Ser Asn Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe
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 Ser Asn Met Ser His Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg
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 Arg Val Leu Thr Leu His Gly Asn Asp Ile Ser Ser Val Pro Glu
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 Gly Ser Phe Asn Asp Leu Thr Ser Leu Ser His Leu Ala Leu Gly
 845 850 855
 Thr Asn Pro Leu His Cys Asp Cys Ser Leu Arg Trp Leu Ser Glu
 860 865 870
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 875 880 885
 Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu Thr Thr Pro Thr
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 920 925 930
 Cys Thr Gln Asp Pro Val Glu Leu Tyr Arg Cys Ala Cys Pro Tyr
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 Ser Tyr Lys Gly Lys Asp Cys Thr Val Pro Ile Asn Thr Cys Ile
 950 955 960
 Gln Asn Pro Cys Gln His Gly Gly Thr Cys His Leu Ser Asp Ser
 965 970 975
 His Lys Asp Gly Phe Ser Cys Ser Cys Pro Leu Gly Phe Glu Gly
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| 1055 | 1060 | 1065 |
| Tyr Ser Gly Lys Leu Cys Glu Thr Asp Asn Asp Asp Cys Val Ala | | |
| 1070 | 1075 | 1080 |
| His Lys Cys Arg His Gly Ala Gln Cys Val Asp Thr Ile Asn Gly | | |
| 1085 | 1090 | 1095 |
| Tyr Thr Cys Thr Cys Pro Gln Gly Phe Ser Gly Pro Phe Cys Glu | | |
| 1100 | 1105 | 1110 |
| His Pro Pro Pro Met Val Leu Leu Gln Thr Ser Pro Cys Asp Gln | | |
| 1115 | 1120 | 1125 |
| Tyr Glu Cys Gln Asn Gly Ala Gln Cys Ile Val Val Gln Gln Glu | | |
| 1130 | 1135 | 1140 |
| Pro Thr Cys Arg Cys Pro Pro Gly Phe Ala Gly Pro Arg Cys Glu | | |
| 1145 | 1150 | 1155 |
| Lys Leu Ile Thr Val Asn Phe Val Gly Lys Asp Ser Tyr Val Glu | | |
| 1160 | 1165 | 1170 |
| Leu Ala Ser Ala Lys Val Arg Pro Gln Ala Asn Ile Ser Leu Gln | | |
| 1175 | 1180 | 1185 |
| Val Ala Thr Asp Lys Asp Asn Gly Ile Leu Leu Tyr Lys Gly Asp | | |
| 1190 | 1195 | 1200 |
| Asn Asp Pro Leu Ala Leu Glu Leu Tyr Gln Gly His Val Arg Leu | | |
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| Val Tyr Asp Ser Leu Ser Ser Pro Pro Thr Thr Val Tyr Ser Val | | |
| 1220 | 1225 | 1230 |
| Glu Thr Val Asn Asp Gly Gln Phe His Ser Val Glu Leu Val Thr | | |
| 1235 | 1240 | 1245 |
| Leu Asn Gln Thr Leu Asn Leu Val Val Asp Lys Gly Thr Pro Lys | | |
| 1250 | 1255 | 1260 |
| Ser Leu Gly Lys Leu Gln Lys Gln Pro Ala Val Gly Ile Asn Ser | | |
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| Pro Leu Tyr Leu Gly Gly Ile Pro Thr Ser Thr Gly Leu Ser Ala | | |
| 1280 | 1285 | 1290 |
| Leu Arg Gln Gly Thr Asp Arg Pro Leu Gly Gly Phe His Gly Cys | | |
| 1295 | 1300 | 1305 |
| Ile His Glu Val Arg Ile Asn Asn Glu Leu Gln Asp Phe Lys Ala | | |
| 1310 | 1315 | 1320 |
| Leu Pro Pro Gln Ser Leu Gly Val Ser Pro Gly Cys Lys Ser Cys | | |
| 1325 | 1330 | 1335 |

PROTEIN SEQUENCES

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| Val | Val | Cys | Glu | Cys | Arg | Pro | Gly | Trp | Thr | Gly | Pro | Leu | Cys | Asp |
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| Lys | Cys | Val | Ala | Thr | Gly | Thr | Ser | Tyr | Met | Cys | Lys | Cys | Ala | Glu |
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| | | | | | | | | | | | | | | 1395 |
| Gly | Tyr | Gly | Gly | Asp | Leu | Cys | Asp | Asn | Lys | Asn | Asp | Ser | Ala | Asn |
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| | | | | | | | | | | | | | | 1405 |
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| Glu | His | Cys | Gln | Gln | Glu | Asn | Pro | Cys | Leu | Gly | Gln | Val | Val | Arg |
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| Glu | Val | Ile | Arg | Arg | Gln | Lys | Gly | Tyr | Ala | Ser | Cys | Ala | Thr | Ala |
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| | | | | | | | | | | | | | | 1470 |
| Ser | Lys | Val | Pro | Ile | Met | Glu | Cys | Arg | Gly | Gly | Cys | Gly | Pro | Gln |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 1475 |
| | | | | | | | | | | | | | | 1480 |
| | | | | | | | | | | | | | | 1485 |
| Cys | Cys | Gln | Pro | Thr | Arg | Ser | Lys | Arg | Arg | Lys | Tyr | Val | Phe | Gln |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 1490 |
| | | | | | | | | | | | | | | 1495 |
| | | | | | | | | | | | | | | 1500 |
| Cys | Thr | Asp | Gly | Ser | Ser | Phe | Val | Glu | Glu | Val | Glu | Arg | His | Leu |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 1505 |
| | | | | | | | | | | | | | | 1510 |
| | | | | | | | | | | | | | | 1515 |
| Glu | Cys | Gly | Cys | Leu | Ala | Cys | Ser | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 1520 |

<210> 199

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 199

atggagattc ctgccaaactt gccg 24

<210> 200

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 200
ttgttggcat tgaggaggag cago 24

<210> 201
<211> 50
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.

<400> 201
gagggcatcg tcgaaatacg cctagaacag aactccatca aagccatccc 50

<210> 202
<211> 753
<212> DNA
<213> Homo sapiens

<400> 202
ggatgcagga cgctccccgt agctgcctgt caccgactag gtggagcagt 50
gtttcttccg cagactcaac tgagaagtca gcctctgggg caggcaccag 100
gaatctgcct tttcagttct gtctccggca ggctttgagg atgaaggctg 150
cgggcattct gaccctcatt ggctgcctgg tcacaggcgc cgagtccaaa 200
atctacactc gttgcaaact ggcaaaaata ttctcgaggg ctggcctgga 250
caattactgg ggcttcagcc ttggaaaactg gatctgcatg gcatattatg 300
agagcggcta caacaccaca gcccccacgg tcctggatga cggcagcatc 350
gactatggca tcttccagat caacagcttc gcgtggtgca gacgcggaaa 400
gctgaaggag aacaaccact gccatgtcgc ctgctcagcc ttgatcactg 450
atgacctcac agatgcaatt atctgtgcc aaaaaattgt taaagagaca 500
caaggaatga actattggca aggctggaag aaacattgtg agggcagaga 550
cctgtccgag tggaaaaaaag gctgtgaggt ttcctaaact ggaactggac 600
ccagtagtgc ttgcagcaac gccctaggat ttgcagtgaa tgtccaaatg 650
cctgtgtcat cttgtcccggt ttcctcccaa tattccttct caaacttgga 700
gaggaaaaat taagctatac ttttaagaaa ataaatattt ccatttaaat 750
gtc 753

<210> 203
<211> 148
<212> PRT
<213> Homo sapiens

<400> 203
Met Lys Ala Ala Gly Ile Leu Thr Leu Ile Gly Cys Leu Val Thr
1 5 10 15
Gly Ala Glu Ser Lys Ile Tyr Thr Arg Cys Lys Leu Ala Lys Ile
20 25 30
Phe Ser Arg Ala Gly Leu Asp Asn Tyr Trp Gly Phe Ser Leu Gly
35 40 45
Asn Trp Ile Cys Met Ala Tyr Tyr Glu Ser Gly Tyr Asn Thr Thr
50 55 60
Ala Pro Thr Val Leu Asp Asp Gly Ser Ile Asp Tyr Gly Ile Phe
65 70 75
Gln Ile Asn Ser Phe Ala Trp Cys Arg Arg Gly Lys Leu Lys Glu
80 85 90
Asn Asn His Cys His Val Ala Cys Ser Ala Leu Ile Thr Asp Asp
95 100 105
Leu Thr Asp Ala Ile Ile Cys Ala Arg Lys Ile Val Lys Glu Thr
110 115 120
Gln Gly Met Asn Tyr Trp Gln Gly Trp Lys Lys His Cys Glu Gly
125 130 135
Arg Asp Leu Ser Glu Trp Lys Lys Gly Cys Glu Val Ser
140 145

<210> 204
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 204
gcaggcttg aggatgaagg ctgc 24

<210> 205
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 205
ctcattggct gcctggtcac aggc 24

<210> 206
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 206
ccagtcggac aggtctctcc cctc 24

<210> 207
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 207
tcagtgacca aggctgagca ggcg 24

<210> 208
<211> 47
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-47
<223> Synthetic construct.

<400> 208
ctacactcgt tgcaaactgg caaaaatatt ctgcagggtt ggctgg 47

<210> 209
<211> 1648
<212> DNA
<213> Homo sapiens

<400> 209
caggccattt gcatcccact gtccttgtt tcggagccag gccacaccgt 50
cctcagcagt gtcatgtttt aaaaacgcca agctgaatat atcatgcccc 100
tataaaact tgtacatggc tccccattgg tttttggaga aaagttcaag 150
cttttacctt tgggtctgc ctgtatccca gtgttcaggc tggctagacg 200
gcgaaagaag atcctatttt actgtcactt cccagatctg cttctcacca 250

agagagattc ttttcttaaa cgactataca gggccccaat tgactggata 300
gaggaataca ccacaggcat ggcagactgc atcttagtca acagccagtt 350
cacagctgct gttttaagg aaacattcaa gtccctgtct cacatagacc 400
ctgatgtcct ctatccatct ctaaatgtca ccagcttga ctcaagtgtt 450
cctgaaaagc tggatgacct agtccccaa gggaaaaaat tcctgctgct 500
ctccatcaac agatacgaaa ggaagaaaaa tctgactttg gcactggaag 550
ccctagttaca gctgcgtgga agattgacat cccaagattt ggagagggtt 600
catctgatcg tggcaggtgg ttatgacgag agagtcctgg agaatgtgga 650
acattatcag gaattgaaga aaatggtcca acagtccgac ctggccagt 700
atgtgacctt cttgaggtct ttctcagaca aacagaaaat ctccctcctc 750
cacagctgca cgtgtgtgct ttacacacca agcaatgagc acttggcat 800
tgtccctctg gaagccatgt acatgcagtg cccagtcatt gctgttaatt 850
cgggtggacc cttggagttcc attgaccaca gtgtcacagg gtttctgtgt 900
gagcctgacc cggcgcactt ctcagaagca atagaaaagt tcatccgtga 950
accttcctta aaagccacca tggcctggc tggaaagagcc agagtgaagg 1000
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atgcagaaga gatctttaa aaaataaact tgagtcttga atgtgagcca 1200
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tgtcattcca tggtcagcag agtattttaa ttatattttc tcgggattat 1350
tgctttctg tctataaatt ttgaatgata ctgtgcctta attggtttc 1400
atagtttaag tgtgtatcat tatcaaagtt gattaatttgc gttcatagt 1450
ataatgagag cagggctatt gtagttccca gattcaatcc accgaagtgt 1500
tcactgtcat ctgttaggaa atttttgttt gtcctgtctt tgccctggatc 1550
catagcgaga gtgctctgta ttttttttaa gataatttgt atttttgcac 1600
actgagatataataaaaggt gtttatcata aaaaaaaaaa aaaaaaaaa 1648

<210> 210
<211> 323

<212> PRT

<213> Homo sapiens

<400> 210

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Leu | Leu | Lys | Leu | Val | His | Gly | Ser | Pro | Leu | Val | Phe | Gly |
| 1 | | | | 5 | | | 10 | | | | | | 15 | |
| Glu | Lys | Phe | Lys | Leu | Phe | Thr | Leu | Val | Ser | Ala | Cys | Ile | Pro | Val |
| | | | | 20 | | | | 25 | | | | | 30 | |
| Phe | Arg | Leu | Ala | Arg | Arg | Arg | Lys | Lys | Ile | Leu | Phe | Tyr | Cys | His |
| | | | | 35 | | | | 40 | | | | | 45 | |
| Phe | Pro | Asp | Leu | Leu | Leu | Thr | Lys | Arg | Asp | Ser | Phe | Leu | Lys | Arg |
| | | | | 50 | | | | 55 | | | | | 60 | |
| Leu | Tyr | Arg | Ala | Pro | Ile | Asp | Trp | Ile | Glu | Glu | Tyr | Thr | Thr | Gly |
| | | | | 65 | | | | 70 | | | | | 75 | |
| Met | Ala | Asp | Cys | Ile | Leu | Val | Asn | Ser | Gln | Phe | Thr | Ala | Ala | Val |
| | | | | 80 | | | | 85 | | | | | 90 | |
| Phe | Lys | Glu | Thr | Phe | Lys | Ser | Leu | Ser | His | Ile | Asp | Pro | Asp | Val |
| | | | | 95 | | | | 100 | | | | | 105 | |
| Leu | Tyr | Pro | Ser | Leu | Asn | Val | Thr | Ser | Phe | Asp | Ser | Val | Val | Pro |
| | | | | 110 | | | | 115 | | | | | 120 | |
| Glu | Lys | Leu | Asp | Asp | Leu | Val | Pro | Lys | Gly | Lys | Lys | Phe | Leu | Leu |
| | | | | 125 | | | | 130 | | | | | 135 | |
| Leu | Ser | Ile | Asn | Arg | Tyr | Glu | Arg | Lys | Lys | Asn | Leu | Thr | Leu | Ala |
| | | | | 140 | | | | 145 | | | | | 150 | |
| Leu | Glu | Ala | Leu | Val | Gln | Leu | Arg | Gly | Arg | Leu | Thr | Ser | Gln | Asp |
| | | | | 155 | | | | 160 | | | | | 165 | |
| Trp | Glu | Arg | Val | His | Leu | Ile | Val | Ala | Gly | Gly | Tyr | Asp | Glu | Arg |
| | | | | 170 | | | | 175 | | | | | 180 | |
| Val | Leu | Glu | Asn | Val | Glu | His | Tyr | Gln | Glu | Leu | Lys | Lys | Met | Val |
| | | | | 185 | | | | 190 | | | | | 195 | |
| Gln | Gln | Ser | Asp | Leu | Gly | Gln | Tyr | Val | Thr | Phe | Leu | Arg | Ser | Phe |
| | | | | 200 | | | | 205 | | | | | 210 | |
| Ser | Asp | Lys | Gln | Lys | Ile | Ser | Leu | Leu | His | Ser | Cys | Thr | Cys | Val |
| | | | | 215 | | | | 220 | | | | | 225 | |
| Leu | Tyr | Thr | Pro | Ser | Asn | Glu | His | Phe | Gly | Ile | Val | Pro | Leu | Glu |
| | | | | 230 | | | | 235 | | | | | 240 | |
| Ala | Met | Tyr | Met | Gln | Cys | Pro | Val | Ile | Ala | Val | Asn | Ser | Gly | Gly |
| | | | | 245 | | | | 250 | | | | | 255 | |
| Pro | Leu | Glu | Ser | Ile | Asp | His | Ser | Val | Thr | Gly | Phe | Leu | Cys | Glu |
| | | | | 260 | | | | 265 | | | | | 270 | |

Pro Asp Pro Val His Phe Ser Glu Ala Ile Glu Lys Phe Ile Arg
275 280 285
Glu Pro Ser Leu Lys Ala Thr Met Gly Leu Ala Gly Arg Ala Arg
290 295 300
Val Lys Glu Lys Phe Ser Pro Glu Ala Phe Thr Glu Gln Leu Tyr
305 310 315
Arg Tyr Val Thr Lys Leu Leu Val
320

<210> 211
<211> 1554
<212> DNA
<213> Homo sapiens

<400> 211
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cttcgcgatc ttccgcgtta ctttcttgct ggcgttggtg ggagccgtgc 100
tctacacctcta tccggcttcc agacaagctg caggaattcc agggattact 150
ccaactgaag aaaaagatgg taatcttcca gatattgtga atagtggaaag 200
tttgcattgag ttccctggta atttgcattga gagatatggg cctgtggct 250
ccttctgggtt tggcaggcgcc ctccgtggta gtttggcac tggatgtgt 300
ctgaaggcagc atatcaatcc caataagaca tcggaccctt ttgaaaccat 350
gctgaagtca ttatataaggat atcaatctgg tggtggcagt gtgagtgaaa 400
accacatgag gaaaaaaattt tatgaaaatg gtgtgactga ttctctgaag 450
agtaactttt ccctcctcct aaagctttca gaagaatttat tagataaatg 500
gctctcctac ccagagaccc agcacgtgcc cctcagccag catatgctt 550
gttttgctat gaagtctgtt acacagatgg taatggtag tacatggaa 600
gatgatcagg aagtcatcg ctccagaag aatcatggca cagtttggtc 650
tgagattgga aaaggcttc tagatggc acttgataaa aacatgactc 700
ggaaaaaaaca atatgaagat gccctcatgc aactggagtc tgtttaagg 750
aacatcataa aagaacgaaa aggaaggaac ttcaatcaac atatccat 800
tgactcctta gtacaaggaa accttaatga ccaacagatc ctagaagaca 850
gtatgatatt ttctctggcc agttgcataa taactgcaaa attgtgtacc 900
tggcaatct gtttttaac cacctctgaa gaagttcaaa aaaaattata 950
tgaagagata aaccaagttt ttggaaatgg tcctgttact ccagagaaaa 1000

ttgagcagct cagatattgt cagcatgtgc tttgtgaaac tgttcgaact 1050
gccaaactga ctccagttc tgcccagctt caagatattg aaggaaaaat 1100
tgaccgattt attattccta gagagaccct cgtccttat gcccttggtg 1150
tggacttca ggatccta atctggccat ctccacacaa gtttgatcca 1200
gatcggtttg atgatgaatt agtaatgaaa acttttcct cacttggatt 1250
ctcaggcaca caggagtgtc cagagtttag gtttgcata atggtgacca 1300
cagtacttct tagtgtattt gtgaagagac tgcacctact ttctgtggag 1350
ggacaggtta ttgaaacaaa gtatgaactg gtaacatcat caaggaaaga 1400
agcttggatc actgtctcaa agagatatta aaattttata catttaaat 1450
cattgttaaa ttgattgagg aaaacaacca tttaaaaaaa atctatgtt 1500
aatcctttta taaaccagta tcactttgta atataaacac ctatttgcac 1550
ttaa 1554

<210> 212
<211> 462
<212> PRT
<213> Homo sapiens

<400> 212
Met Leu Asp Phe Ala Ile Phe Ala Val Thr Phe Leu Leu Ala Leu
1 5 10 15
Val Gly Ala Val Leu Tyr Leu Tyr Pro Ala Ser Arg Gln Ala Ala
20 25 30
Gly Ile Pro Gly Ile Thr Pro Thr Glu Glu Lys Asp Gly Asn Leu
35 40 45
Pro Asp Ile Val Asn Ser Gly Ser Leu His Glu Phe Leu Val Asn
50 55 60
Leu His Glu Arg Tyr Gly Pro Val Val Ser Phe Trp Phe Gly Arg
65 70 75
Arg Leu Val Val Ser Leu Gly Thr Val Asp Val Leu Lys Gln His
80 85 90
Ile Asn Pro Asn Lys Thr Ser Asp Pro Phe Glu Thr Met Leu Lys
95 100 105
Ser Leu Leu Arg Tyr Gln Ser Gly Gly Ser Val Ser Glu Asn
110 115 120
His Met Arg Lys Lys Leu Tyr Glu Asn Gly Val Thr Asp Ser Leu
125 130 135
Lys Ser Asn Phe Ala Leu Leu Lys Leu Ser Glu Glu Leu Leu

| | | | |
|---|-----|-----|-----|
| | 140 | 145 | 150 |
| Asp Lys Trp Leu Ser Tyr Pro Glu Thr Gln His Val Pro Leu Ser | | | |
| 155 | 160 | 165 | |
| Gln His Met Leu Gly Phe Ala Met Lys Ser Val Thr Gln Met Val | | | |
| 170 | 175 | 180 | |
| Met Gly Ser Thr Phe Glu Asp Asp Gln Glu Val Ile Arg Phe Gln | | | |
| 185 | 190 | 195 | |
| Lys Asn His Gly Thr Val Trp Ser Glu Ile Gly Lys Gly Phe Leu | | | |
| 200 | 205 | 210 | |
| Asp Gly Ser Leu Asp Lys Asn Met Thr Arg Lys Lys Gln Tyr Glu | | | |
| 215 | 220 | 225 | |
| Asp Ala Leu Met Gln Leu Glu Ser Val Leu Arg Asn Ile Ile Lys | | | |
| 230 | 235 | 240 | |
| Glu Arg Lys Gly Arg Asn Phe Ser Gln His Ile Phe Ile Asp Ser | | | |
| 245 | 250 | 255 | |
| Leu Val Gln Gly Asn Leu Asn Asp Gln Gln Ile Leu Glu Asp Ser | | | |
| 260 | 265 | 270 | |
| Met Ile Phe Ser Leu Ala Ser Cys Ile Ile Thr Ala Lys Leu Cys | | | |
| 275 | 280 | 285 | |
| Thr Trp Ala Ile Cys Phe Leu Thr Thr Ser Glu Glu Val Gln Lys | | | |
| 290 | 295 | 300 | |
| Lys Leu Tyr Glu Glu Ile Asn Gln Val Phe Gly Asn Gly Pro Val | | | |
| 305 | 310 | 315 | |
| Thr Pro Glu Lys Ile Glu Gln Leu Arg Tyr Cys Gln His Val Leu | | | |
| 320 | 325 | 330 | |
| Cys Glu Thr Val Arg Thr Ala Lys Leu Thr Pro Val Ser Ala Gln | | | |
| 335 | 340 | 345 | |
| Leu Gln Asp Ile Glu Gly Lys Ile Asp Arg Phe Ile Ile Pro Arg | | | |
| 350 | 355 | 360 | |
| Glu Thr Leu Val Leu Tyr Ala Leu Gly Val Val Leu Gln Asp Pro | | | |
| 365 | 370 | 375 | |
| Asn Thr Trp Pro Ser Pro His Lys Phe Asp Pro Asp Arg Phe Asp | | | |
| 380 | 385 | 390 | |
| Asp Glu Leu Val Met Lys Thr Phe Ser Ser Leu Gly Phe Ser Gly | | | |
| 395 | 400 | 405 | |
| Thr Gln Glu Cys Pro Glu Leu Arg Phe Ala Tyr Met Val Thr Thr | | | |
| 410 | 415 | 420 | |
| Val Leu Leu Ser Val Leu Val Lys Arg Leu His Leu Leu Ser Val | | | |
| 425 | 430 | 435 | |

Glu Gly Gln Val Ile Glu Thr Lys Tyr Glu Leu Val Thr Ser Ser
440 445 450

Arg Glu Glu Ala Trp Ile Thr Val Ser Lys Arg Tyr
455 460

<210> 213

<211> 759

<212> DNA

<213> Homo sapiens

<400> 213

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tcagggcttg tgccctctcg cttcctgacg ctccctggcgc atctgggtgt 150
cgtcatcacc ttattctgggt cccgggacag caacatacag gcctgcctgc 200
ctctcacgtt cacccccgag gagtatgaca agcaggacat tcagctggtg 250
gccgcgctct ctgtcacccct gggcctcttt gcagtggagc tggccgggttt 300
cctctcagga gtctccatgt tcaacagcac ccagagcctc atctccattg 350
gggctcactg tagtgcattcc gtggccctgt ctttcttcat attcgagcgt 400
tgggagtgca ctacgtattt gtacattttt gtcttctgca gtgcccttcc 450
agctgtcact gaaatggctt tattcgtcac cgtctttggg ctgaaaaaga 500
aacccttctg attaccttca tgacgggaac ctaaggacga agcctacagg 550
ggcaaggggcc gcttcgtatt cctggaagaa ggaaggcata ggcttcgggtt 600
ttcccccctcgaa actacgttca tgctggagga tatgtgttgg aataattacg 650
tctttagtct gggattatcc gcattgtatt tagtgctttg taataaaaata 700
tgttttgttag taacatataag acttatatac agtttttaggg gacaattaaa 750
aaaaaaaaaa 759

<210> 214

<211> 140

<212> PRT

<213> Homo sapiens

<400> 214

Met Gly Arg Val Ser Gly Leu Val Pro Ser Arg Phe Leu Thr Leu
1 5 10 15

Leu Ala His Leu Val Val Val Ile Thr Leu Phe Trp Ser Arg Asp
20 25 30

Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu
35 40 45

Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr
 50 55 60
 Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val
 65 70 75
 Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His
 80 85 90
 Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp
 95 100 105
 Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu
 110 115 120
 Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu
 125 130 135
 Lys Lys Lys Pro Phe
 140

<210> 215
 <211> 697
 <212> DNA
 <213> Homo sapiens

<400> 215
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 cctgggctct ccccagcctc cttcgactcg gagcggctca ggagacagaa 100
 gaccggcct gctgcagccc catagtgc(cc) cggaacgagt ggaaggccct 150
 ggcatcagag tgcgcccagc acctgagcct gcccttacgc tatgtggtgg 200
 tatcgacac ggcgggcagc agctgcaaca ccccccgcctc gtgccagcag 250
 cagggccgga atgtgcagca ctaccacatg aagacactgg gctggtgcga 300
 cgtggctac aacttcctga ttggagaaga cgggctcgta tacgagggcc 350
 gtggctggaa cttcacgggt gcccaactcg gtcacttatg gaaccccatg 400
 tccattggca tcagttcat gggcaactac atggatcggt tgcccacacc 450
 ccagggccatc cgggcagccc agggtctact ggcctgcgggt gtggctcagg 500
 gagccctgag gtccaaactat gtgctcaaag gacaccggga tgtgcagcgt 550
 acactctctc caggcaacca gcttaccac ctcatccaga attggccaca 600
 ctaccgctcc ccctgaggcc ctgctgatcc gcaccccatc cctccctcc 650
 catggccaaa aaccccactg tctccttctc caataaaagat gtagctc 697

<210> 216
 <211> 196
 <212> PRT

<213> Homo sapiens

<400> 216

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Arg | Arg | Ser | Met | Leu | Leu | Ala | Trp | Ala | Leu | Pro | Ser | Leu |
| 1 | | | | | 5 | | | | 10 | | | | | 15 |
| Leu | Arg | Leu | Gly | Ala | Ala | Gln | Glu | Thr | Glu | Asp | Pro | Ala | Cys | Cys |
| | | | | | 20 | | | | 25 | | | | | 30 |
| Ser | Pro | Ile | Val | Pro | Arg | Asn | Glu | Trp | Lys | Ala | Leu | Ala | Ser | Glu |
| | | | | | 35 | | | | 40 | | | | | 45 |
| Cys | Ala | Gln | His | Leu | Ser | Leu | Pro | Leu | Arg | Tyr | Val | Val | Val | Ser |
| | | | | | 50 | | | | 55 | | | | | 60 |
| His | Thr | Ala | Gly | Ser | Ser | Cys | Asn | Thr | Pro | Ala | Ser | Cys | Gln | Gln |
| | | | | | 65 | | | | 70 | | | | | 75 |
| Gln | Ala | Arg | Asn | Val | Gln | His | Tyr | His | Met | Lys | Thr | Leu | Gly | Trp |
| | | | | | 80 | | | | 85 | | | | | 90 |
| Cys | Asp | Val | Gly | Tyr | Asn | Phe | Leu | Ile | Gly | Glu | Asp | Gly | Leu | Val |
| | | | | | 95 | | | | 100 | | | | | 105 |
| Tyr | Glu | Gly | Arg | Gly | Trp | Asn | Phe | Thr | Gly | Ala | His | Ser | Gly | His |
| | | | | | 110 | | | | 115 | | | | | 120 |
| Leu | Trp | Asn | Pro | Met | Ser | Ile | Gly | Ile | Ser | Phe | Met | Gly | Asn | Tyr |
| | | | | | 125 | | | | 130 | | | | | 135 |
| Met | Asp | Arg | Val | Pro | Thr | Pro | Gln | Ala | Ile | Arg | Ala | Ala | Gln | Gly |
| | | | | | 140 | | | | 145 | | | | | 150 |
| Leu | Leu | Ala | Cys | Gly | Val | Ala | Gln | Gly | Ala | Leu | Arg | Ser | Asn | Tyr |
| | | | | | 155 | | | | 160 | | | | | 165 |
| Val | Leu | Lys | Gly | His | Arg | Asp | Val | Gln | Arg | Thr | Leu | Ser | Pro | Gly |
| | | | | | 170 | | | | 175 | | | | | 180 |
| Asn | Gln | Leu | Tyr | His | Leu | Ile | Gln | Asn | Trp | Pro | His | Tyr | Arg | Ser |
| | | | | | 185 | | | | 190 | | | | | 195 |

Pro

<210> 217

<211> 1871

<212> DNA

<213> Homo sapiens

<400> 217

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卷之三

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<211> 252

<212> PRT

<213> Homo sapiens

<400> 218

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| Met | Gln | Leu | Thr | Arg | Cys | Cys | Phe | Val | Phe | Leu | Val | Gln | Gly | Ser | |
| 1 | | | | | 5 | | | | 10 | | | | | | 15 |
| Leu | Tyr | Leu | Val | Ile | Cys | Gly | Gln | Asp | Asp | Gly | Pro | Pro | Gly | Ser | |
| | | | | | | | 20 | | 25 | | | | | | 30 |
| Glu | Asp | Pro | Glu | Arg | Asp | Asp | His | Glu | Gly | Gln | Pro | Arg | Pro | Arg | |
| | | | | | 35 | | | | 40 | | | | | | 45 |
| Val | Pro | Arg | Lys | Arg | Gly | His | Ile | Ser | Pro | Lys | Ser | Arg | Pro | Met | |
| | | | | | | | 50 | | | 55 | | | | | 60 |
| Ala | Asn | Ser | Thr | Leu | Leu | Gly | Leu | Leu | Ala | Pro | Pro | Gly | Glu | Ala | |
| | | | | | | | 65 | | | 70 | | | | | 75 |
| Trp | Gly | Ile | Leu | Gly | Gln | Pro | Pro | Asn | Arg | Pro | Asn | His | Ser | Pro | |
| | | | | | | 80 | | | 85 | | | | | | 90 |
| Pro | Pro | Ser | Ala | Lys | Val | Lys | Lys | Ile | Phe | Gly | Trp | Gly | Asp | Phe | |
| | | | | | | | 95 | | | 100 | | | | | 105 |
| Tyr | Ser | Asn | Ile | Lys | Thr | Val | Ala | Leu | Asn | Leu | Leu | Val | Thr | Gly | |
| | | | | | | | 110 | | | 115 | | | | | 120 |
| Lys | Ile | Val | Asp | His | Gly | Asn | Gly | Thr | Phe | Ser | Val | His | Phe | Gln | |
| | | | | | | 125 | | | | 130 | | | | | 135 |
| His | Asn | Ala | Thr | Gly | Gln | Gly | Asn | Ile | Ser | Ile | Ser | Leu | Val | Pro | |
| | | | | | | | 140 | | | 145 | | | | | 150 |
| Pro | Ser | Lys | Ala | Val | Glu | Phe | His | Gln | Glu | Gln | Gln | Ile | Phe | Ile | |
| | | | | | | | 155 | | | 160 | | | | | 165 |
| Glu | Ala | Lys | Ala | Ser | Lys | Ile | Phe | Asn | Cys | Arg | Met | Glu | Trp | Glu | |
| | | | | | | | 170 | | | 175 | | | | | 180 |
| Lys | Val | Glu | Arg | Gly | Arg | Arg | Thr | Ser | Leu | Cys | Thr | His | Asp | Pro | |
| | | | | | | | 185 | | | 190 | | | | | 195 |
| Ala | Lys | Ile | Cys | Ser | Arg | Asp | His | Ala | Gln | Ser | Ser | Ala | Thr | Trp | |
| | | | | | | | 200 | | | 205 | | | | | 210 |

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Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly
245 250

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<210> 220

<211> 201

<212> PRT

<213> Homo sapiens

<400> 220

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Ser | Gly | Arg | Arg | Ala | Leu | Ser | Ala | Val | Pro | Ala | Val | Leu |
| 1 | | | | 5 | | | | | 10 | | | 15 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Leu | Thr | Leu | Pro | Gly | Leu | Pro | Val | Trp | Ala | Gln | Asn | Asp |
| | | | | 20 | | | | 25 | | | | 30 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Glu | Pro | Ile | Val | Leu | Glu | Gly | Lys | Cys | Leu | Val | Val | Cys | Asp |
| | | | | 35 | | | | 40 | | | | 45 | | |

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Asn | Pro | Ala | Thr | Asp | Ser | Lys | Gly | Ser | Ser | Ser | Pro | Leu |
| | | | | 50 | | | | 55 | | | | 60 | |

Gly Ile Ser Val Arg Ala Ala Asn Ser Lys Val Ala Phe Ser Ala
65 70 75

Val Arg Ser Thr Asn His Glu Pro Ser Glu Met Ser Asn Lys Thr
80 85 90

Arg Ile Ile Tyr Phe Asp Gln Ile Leu Val Asn Val Gly Asn Phe
95 100 105

Phe Thr Leu Glu Ser Val Phe Val Ala Pro Arg Lys Gly Ile Tyr
110 115 120

Ser Phe Ser Phe His Val Ile Lys Val Tyr Gln Ser Gln Thr Ile
125 130 135

Gln Val Asn Leu Met Leu Asn Gly Lys Pro Val Ile Ser Ala Phe
140 145 150

Ala Gly Asp Lys Asp Val Thr Arg Glu Ala Ala Thr Asn Gly Val
155 160 165

Leu Leu Tyr Leu Asp Lys Glu Asp Lys Val Tyr Leu Lys Leu Glu
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Lys Gly Asn Leu Val Gly Gly Trp Gln Tyr Ser Thr Phe Ser Gly
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Phe Leu Val Phe Pro Leu
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<400> 221
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<210> 222
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<220>
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<210> 223
<211> 40

<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-40
<223> Synthetic construct.

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<210> 224
<211> 902
<212> DNA
<213> Homo sapiens

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<210> 225
<211> 257
<212> PRT

<213> Homo sapiens

<400> 225

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Ala | Ala | Val | Phe | Phe | Gly | Cys | Ala | Phe | Ile | Ala | Phe | Gly | |
| 1 | | | | 5 | | | | 10 | | | | | | | 15 |
| Pro | Ala | Leu | Ala | Leu | Tyr | Val | Phe | Thr | Ile | Ala | Ile | Glu | Pro | Leu | |
| | | | | 20 | | | | 25 | | | | | | | 30 |
| Arg | Ile | Ile | Phe | Leu | Ile | Ala | Gly | Ala | Phe | Phe | Trp | Leu | Val | Ser | |
| | | | | 35 | | | | 40 | | | | | | | 45 |
| Leu | Leu | Ile | Ser | Ser | Leu | Val | Trp | Phe | Met | Ala | Arg | Val | Ile | Ile | |
| | | | | 50 | | | | 55 | | | | | | | 60 |
| Asp | Asn | Lys | Asp | Gly | Pro | Thr | Gln | Lys | Tyr | Leu | Leu | Ile | Phe | Gly | |
| | | | | 65 | | | | 70 | | | | | | | 75 |
| Ala | Phe | Val | Ser | Val | Tyr | Ile | Gln | Glu | Met | Phe | Arg | Phe | Ala | Tyr | |
| | | | | 80 | | | | 85 | | | | | | | 90 |
| Tyr | Lys | Leu | Leu | Lys | Lys | Ala | Ser | Glu | Gly | Leu | Lys | Ser | Ile | Asn | |
| | | | | 95 | | | | 100 | | | | | | | 105 |
| Pro | Gly | Glu | Thr | Ala | Pro | Ser | Met | Arg | Leu | Leu | Ala | Tyr | Val | Ser | |
| | | | | 110 | | | | 115 | | | | | | | 120 |
| Gly | Leu | Gly | Phe | Gly | Ile | Met | Ser | Gly | Val | Phe | Ser | Phe | Val | Asn | |
| | | | | 125 | | | | 130 | | | | | | | 135 |
| Thr | Leu | Ser | Asp | Ser | Leu | Gly | Pro | Gly | Thr | Val | Gly | Ile | His | Gly | |
| | | | | 140 | | | | 145 | | | | | | | 150 |
| Asp | Ser | Pro | Gln | Phe | Phe | Leu | Tyr | Ser | Ala | Phe | Met | Thr | Leu | Val | |
| | | | | 155 | | | | 160 | | | | | | | 165 |
| Ile | Ile | Leu | Leu | His | Val | Phe | Trp | Gly | Ile | Val | Phe | Phe | Asp | Gly | |
| | | | | 170 | | | | 175 | | | | | | | 180 |
| Cys | Glu | Lys | Lys | Lys | Trp | Gly | Ile | Leu | Leu | Ile | Val | Leu | Leu | Thr | |
| | | | | 185 | | | | 190 | | | | | | | 195 |
| His | Leu | Leu | Val | Ser | Ala | Gln | Thr | Phe | Ile | Ser | Ser | Tyr | Tyr | Gly | |
| | | | | 200 | | | | 205 | | | | | | | 210 |
| Ile | Asn | Leu | Ala | Ser | Ala | Phe | Ile | Ile | Leu | Val | Leu | Met | Gly | Thr | |
| | | | | 215 | | | | 220 | | | | | | | 225 |
| Trp | Ala | Phe | Leu | Ala | Ala | Gly | Gly | Ser | Cys | Arg | Ser | Leu | Lys | Leu | |
| | | | | 230 | | | | 235 | | | | | | | 240 |
| Cys | Leu | Leu | Cys | Gln | Asp | Lys | Asn | Phe | Leu | Leu | Tyr | Asn | Gln | Arg | |
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<210> 227

<211> 832

<212> PRT

<213> Homo sapiens

<400> 227

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Ala | Leu | Gly | Leu | Pro | Phe | Leu | Val | Leu | Leu | Val | Ala | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Ser | His | Leu | Gly | Val | Leu | Gly | Pro | Lys | Asn | Val | Ser | Gln |
| | | | | 20 | | | | 25 | | | | | | 30 |

Lys Asp Ala Glu Phe Glu Arg Thr Tyr Val Asp Glu Val Asn Ser
 35 40 45
 Glu Leu Val Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn
 50 55 60
 Arg Thr Glu Gly Val Arg Val Ser Val Asn Val Leu Asn Lys Gln
 65 70 75
 Lys Gly Ala Pro Leu Leu Phe Val Val Arg Gln Lys Glu Ala Val
 80 85 90
 Val Ser Phe Gln Val Pro Leu Ile Leu Arg Gly Met Phe Gln Arg
 95 100 105
 Lys Tyr Leu Tyr Gln Lys Val Glu Arg Thr Leu Cys Gln Pro Pro
 110 115 120
 Thr Lys Asn Glu Ser Glu Ile Gln Phe Phe Tyr Val Asp Val Ser
 125 130 135
 Thr Leu Ser Pro Val Asn Thr Thr Tyr Gln Leu Arg Val Ser Arg
 140 145 150
 Met Asp Asp Phe Val Leu Arg Thr Gly Glu Gln Phe Ser Phe Asn
 155 160 165
 Thr Thr Ala Ala Gln Pro Gln Tyr Phe Lys Tyr Glu Phe Pro Glu
 170 175 180
 Gly Val Asp Ser Val Ile Val Lys Val Thr Ser Asn Lys Ala Phe
 185 190 195
 Pro Cys Ser Val Ile Ser Ile Gln Asp Val Leu Cys Pro Val Tyr
 200 205 210
 Asp Leu Asp Asn Asn Val Ala Phe Ile Gly Met Tyr Gln Thr Met
 215 220 225
 Thr Lys Lys Ala Ala Ile Thr Val Gln Arg Lys Asp Phe Pro Ser
 230 235 240
 Asn Ser Phe Tyr Val Val Val Val Lys Thr Glu Asp Gln Ala
 245 250 255
 Cys Gly Gly Ser Leu Pro Phe Tyr Pro Phe Ala Glu Asp Glu Pro
 260 265 270
 Val Asp Gln Gly His Arg Gln Lys Thr Leu Ser Val Leu Val Ser
 275 280 285
 Gln Ala Val Thr Ser Glu Ala Tyr Val Ser Gly Met Leu Phe Cys
 290 295 300
 Leu Gly Ile Phe Leu Ser Phe Tyr Leu Leu Thr Val Leu Leu Ala
 305 310 315
 Cys Trp Glu Asn Trp Arg Gln Lys Lys Thr Leu Leu Val Ala

| | | | |
|---|-----|-----|-----|
| | 320 | 325 | 330 |
| Ile Asp Arg Ala Cys Pro Glu Ser Gly His Pro Arg Val Leu Ala | | | |
| 335 | 340 | 345 | |
| Asp Ser Phe Pro Gly Ser Ser Pro Tyr Glu Gly Tyr Asn Tyr Gly | | | |
| 350 | 355 | 360 | |
| Ser Phe Glu Asn Val Ser Gly Ser Thr Asp Gly Leu Val Asp Ser | | | |
| 365 | 370 | 375 | |
| Ala Gly Thr Gly Asp Leu Ser Tyr Gly Tyr Gln Gly Arg Ser Phe | | | |
| 380 | 385 | 390 | |
| Glu Pro Val Gly Thr Arg Pro Arg Val Asp Ser Met Ser Ser Val | | | |
| 395 | 400 | 405 | |
| Glu Glu Asp Asp Tyr Asp Thr Leu Thr Asp Ile Asp Ser Asp Lys | | | |
| 410 | 415 | 420 | |
| Asn Val Ile Arg Thr Lys Gln Tyr Leu Tyr Val Ala Asp Leu Ala | | | |
| 425 | 430 | 435 | |
| Arg Lys Asp Lys Arg Val Leu Arg Lys Lys Tyr Gln Ile Tyr Phe | | | |
| 440 | 445 | 450 | |
| Trp Asn Ile Ala Thr Ile Ala Val Phe Tyr Ala Leu Pro Val Val | | | |
| 455 | 460 | 465 | |
| Gln Leu Val Ile Thr Tyr Gln Thr Val Val Asn Val Thr Gly Asn | | | |
| 470 | 475 | 480 | |
| Gln Asp Ile Cys Tyr Tyr Asn Phe Leu Cys Ala His Pro Leu Gly | | | |
| 485 | 490 | 495 | |
| Asn Leu Ser Ala Phe Asn Asn Ile Leu Ser Asn Leu Gly Tyr Ile | | | |
| 500 | 505 | 510 | |
| Leu Leu Gly Leu Leu Phe Leu Leu Ile Ile Leu Gln Arg Glu Ile | | | |
| 515 | 520 | 525 | |
| Asn His Asn Arg Ala Leu Leu Arg Asn Asp Leu Cys Ala Leu Glu | | | |
| 530 | 535 | 540 | |
| Cys Gly Ile Pro Lys His Phe Gly Leu Phe Tyr Ala Met Gly Thr | | | |
| 545 | 550 | 555 | |
| Ala Leu Met Met Glu Gly Leu Leu Ser Ala Cys Tyr His Val Cys | | | |
| 560 | 565 | 570 | |
| Pro Asn Tyr Thr Asn Phe Gln Phe Asp Thr Ser Phe Met Tyr Met | | | |
| 575 | 580 | 585 | |
| Ile Ala Gly Leu Cys Met Leu Lys Leu Tyr Gln Lys Arg His Pro | | | |
| 590 | 595 | 600 | |
| Asp Ile Asn Ala Ser Ala Tyr Ser Ala Tyr Ala Cys Leu Ala Ile | | | |
| 605 | 610 | 615 | |

Val Ile Phe Phe Ser Val Leu Gly Val Val Phe Gly Lys Gly Asn
 620 625 630
 Thr Ala Phe Trp Ile Val Phe Ser Ile Ile His Ile Ile Ala Thr
 635 640 645
 Leu Leu Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu
 650 655 660
 Asp Ser Gly Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp
 665 670 675
 Cys Ile Arg Gln Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val
 680 685 690
 Leu Leu Val Met Gly Asn Val Ile Asn Trp Ser Leu Ala Ala Tyr
 695 700 705
 Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr Leu Leu Ala
 710 715 720
 Ile Gly Ile Cys Asn Leu Leu Leu Tyr Phe Ala Phe Tyr Ile Ile
 725 730 735
 Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu
 740 745 750
 Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe
 755 760 765
 Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser
 770 775 780
 Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asp Asp
 785 790 795
 His Asp Ile Trp His Phe Leu Ser Ser Ile Ala Met Phe Gly Ser
 800 805 810
 Phe Leu Val Leu Leu Thr Leu Asp Asp Asp Leu Asp Thr Val Gln
 815 820 825
 Arg Asp Lys Ile Tyr Val Phe
 830

<210> 228
 <211> 2848
 <212> DNA
 <213> Homo sapiens

<400> 228
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 ttggcgctg gagggcctgt cctgaccatg gtccctgcct ggctgtggct 150
 gctttgtgtc tccgtccccc aggctctccc caaggcccag cctgcagagc 200

tgtctgtgga agttccagaa aactatggtg gaaatttccc tttatacctg 250
accaagttgc cgctccccg tgagggggct gaaggccaga tcgtgctgtc 300
aggggactca ggcaaggcaa ctgagggccc atttgctatg gatccagatt 350
ctggcttcct gctggtgacc agggccctgg accgagagga gcaggcagag 400
taccagctac aggtcacccct ggagatgcag gatggacatg tcttgtgggg 450
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agccaactcg gatcttcgtat tccacatcct gagccaggtt ccagcccagc 650
cttccccaga catgttccag ctggagcctc ggctggggc tctggccctc 700
agcccaagg ggagcaccag ctttgaccac gccctggaga ggacctacca 750
gctgttggta caggtcaagg acatgggtga ccaggcctca ggccaccagg 800
ccactgccac cgtggaagtc tccatcatag agagcacctg ggtgtcccta 850
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ggcccaaggta cactggagtg ggggtatgt gcactatcac ctggagagcc 950
atccccccggg acccttgaa gtgaatgcag agggaaacct ctacgtgacc 1000
agagagctgg acagagaagc ccaggctgag tacctgctcc aggtgcgggc 1050
tcagaattcc catggcgagg actatgcggc ccctctggag ctgcacgtgc 1100
tggtgatgga tgagaatgac aacgtgccta tctgccctcc ccgtgacccc 1150
acagtcagca tccctgagct cagtccacca ggtactgaag tgactagact 1200
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caggtggacc ccacttcagg cagtgtgacg ctgggggtgc tcccactccg 1350
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ctgcattgag aaattctccg gggaggtgca caccgcccag tccctgcagg 2000
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<211> 807
<212> PRT
<213> Homo sapiens

<400> 229
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Ala Leu Pro Lys Ala Gln Pro Ala Glu Leu Ser Val Glu Val Pro

| 20 | 25 | 30 |
|---|---------------------|-----|
| Glu Asn Tyr Gly Gly Asn Phe Pro Leu Tyr | Leu Thr Lys Leu Pro | |
| 35 | 40 | 45 |
| Leu Pro Arg Glu Gly Ala Glu Gly Gln Ile Val | Leu Ser Gly Asp | |
| 50 | 55 | 60 |
| Ser Gly Lys Ala Thr Glu Gly Pro Phe Ala Met | Asp Pro Asp Ser | |
| 65 | 70 | 75 |
| Gly Phe Leu Leu Val Thr Arg Ala Leu Asp Arg | Glu Glu Gln Ala | |
| 80 | 85 | 90 |
| Glu Tyr Gln Leu Gln Val Thr Leu Glu Met Gln | Asp Gly His Val | |
| 95 | 100 | 105 |
| Leu Trp Gly Pro Gln Pro Val Leu Val His Val | Lys Asp Glu Asn | |
| 110 | 115 | 120 |
| Asp Gln Val Pro His Phe Ser Gln Ala Ile | Tyr Arg Ala Arg Leu | |
| 125 | 130 | 135 |
| Ser Arg Gly Thr Arg Pro Gly Ile Pro Phe Leu | Phe Leu Glu Ala | |
| 140 | 145 | 150 |
| Ser Asp Arg Asp Glu Pro Gly Thr Ala Asn Ser | Asp Leu Arg Phe | |
| 155 | 160 | 165 |
| His Ile Leu Ser Gln Ala Pro Ala Gln Pro | Ser Pro Asp Met Phe | |
| 170 | 175 | 180 |
| Gln Leu Glu Pro Arg Leu Gly Ala Leu Ala | Leu Ser Pro Lys Gly | |
| 185 | 190 | 195 |
| Ser Thr Ser Leu Asp His Ala Leu Glu Arg | Thr Tyr Gln Leu Leu | |
| 200 | 205 | 210 |
| Val Gln Val Lys Asp Met Gly Asp Gln Ala | Ser Gly His Gln Ala | |
| 215 | 220 | 225 |
| Thr Ala Thr Val Glu Val Ser Ile Ile Glu | Ser Thr Trp Val Ser | |
| 230 | 235 | 240 |
| Leu Glu Pro Ile His Leu Ala Glu Asn Leu | Lys Val Leu Tyr Pro | |
| 245 | 250 | 255 |
| His His Met Ala Gln Val His Trp Ser Gly | Gly Asp Val His Tyr | |
| 260 | 265 | 270 |
| His Leu Glu Ser His Pro Pro Gly Pro Phe | Glu Val Asn Ala Glu | |
| 275 | 280 | 285 |
| Gly Asn Leu Tyr Val Thr Arg Glu Leu Asp Arg | Glu Ala Gln Ala | |
| 290 | 295 | 300 |
| Glu Tyr Leu Leu Gln Val Arg Ala Gln Asn | Ser His Gly Glu Asp | |
| 305 | 310 | 315 |

Tyr Ala Ala Pro Leu Glu Leu His Val Leu Val Met Asp Glu Asn
 320 325 330
 Asp Asn Val Pro Ile Cys Pro Pro Arg Asp Pro Thr Val Ser Ile
 335 340 345
 Pro Glu Leu Ser Pro Pro Gly Thr Glu Val Thr Arg Leu Ser Ala
 350 355 360
 Glu Asp Ala Asp Ala Pro Gly Ser Pro Asn Ser His Val Val Tyr
 365 370 375
 Gln Leu Leu Ser Pro Glu Pro Glu Asp Gly Val Glu Gly Arg Ala
 380 385 390
 Phe Gln Val Asp Pro Thr Ser Gly Ser Val Thr Leu Gly Val Leu
 395 400 405
 Pro Leu Arg Ala Gly Gln Asn Ile Leu Leu Leu Val Leu Ala Met
 410 415 420
 Asp Leu Ala Gly Ala Glu Gly Gly Phe Ser Ser Thr Cys Glu Val
 425 430 435
 Glu Val Ala Val Thr Asp Ile Asn Asp His Ala Pro Glu Phe Ile
 440 445 450
 Thr Ser Gln Ile Gly Pro Ile Ser Leu Pro Glu Asp Val Glu Pro
 455 460 465
 Gly Thr Leu Val Ala Met Leu Thr Ala Ile Asp Ala Asp Leu Glu
 470 475 480
 Pro Ala Phe Arg Leu Met Asp Phe Ala Ile Glu Arg Gly Asp Thr
 485 490 495
 Glu Gly Thr Phe Gly Leu Asp Trp Glu Pro Asp Ser Gly His Val
 500 505 510
 Arg Leu Arg Leu Cys Lys Asn Leu Ser Tyr Glu Ala Ala Pro Ser
 515 520 525
 His Glu Val Val Val Val Val Gln Ser Val Ala Lys Leu Val Gly
 530 535 540
 Pro Gly Pro Gly Pro Gly Ala Thr Ala Thr Val Thr Val Leu Val
 545 550 555
 Glu Arg Val Met Pro Pro Pro Lys Leu Asp Gln Glu Ser Tyr Glu
 560 565 570
 Ala Ser Val Pro Ile Ser Ala Pro Ala Gly Ser Phe Leu Leu Thr
 575 580 585
 Ile Gln Pro Ser Asp Pro Ile Ser Arg Thr Leu Arg Phe Ser Leu
 590 595 600
 Val Asn Asp Ser Glu Gly Trp Leu Cys Ile Glu Lys Phe Ser Gly

| | | |
|---|-----|-----|
| 605 | 610 | 615 |
| Glu Val His Thr Ala Gln Ser Leu Gln Gly Ala Gln Pro Gly Asp | | |
| 620 | 625 | 630 |
| Thr Tyr Thr Val Leu Val Glu Ala Gln Asp Thr Ala Leu Thr Leu | | |
| 635 | 640 | 645 |
| Ala Pro Val Pro Ser Gln Tyr Leu Cys Thr Pro Arg Gln Asp His | | |
| 650 | 655 | 660 |
| Gly Leu Ile Val Ser Gly Pro Ser Lys Asp Pro Asp Leu Ala Ser | | |
| 665 | 670 | 675 |
| Gly His Gly Pro Tyr Ser Phe Thr Leu Gly Pro Asn Pro Thr Val | | |
| 680 | 685 | 690 |
| Gln Arg Asp Trp Arg Leu Gln Thr Leu Asn Gly Ser His Ala Tyr | | |
| 695 | 700 | 705 |
| Leu Thr Leu Ala Leu His Trp Val Glu Pro Arg Glu His Ile Ile | | |
| 710 | 715 | 720 |
| Pro Val Val Val Ser His Asn Ala Gln Met Trp Gln Leu Leu Val | | |
| 725 | 730 | 735 |
| Arg Val Ile Val Cys Arg Cys Asn Val Glu Gly Gln Cys Met Arg | | |
| 740 | 745 | 750 |
| Lys Val Gly Arg Met Lys Gly Met Pro Thr Lys Leu Ser Ala Val | | |
| 755 | 760 | 765 |
| Gly Ile Leu Val Gly Thr Leu Val Ala Ile Gly Ile Phe Leu Ile | | |
| 770 | 775 | 780 |
| Leu Ile Phe Thr His Trp Thr Met Ser Arg Lys Lys Asp Pro Asp | | |
| 785 | 790 | 795 |
| Gln Pro Ala Asp Ser Val Pro Leu Lys Ala Thr Val | | |
| 800 | 805 | |

<210> 230

<211> 50

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-50

<223> Synthetic construct.

<400> 230

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<210> 231

<211> 24

<212> DNA

<213> Artificial Segeunce

<220>
<221> Artificial Sequence
<222> full
<223> Synthetic oligonucleotide probe

<400> 231
`cctgagctgt aaccccaactc cagg 24

<210> 232
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 232
agagtctgtc ccagctatct tgt 23

<210> 233
<211> 2786
<212> DNA
<213> Homo sapiens

<400> 233
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cagaaatgga gacgagatca gcaaatttagt tcaactatgt aattcaaaca 150
acttgaagct caatttctgg aaatctccct cctccttcaa tcggcctgtg 200
gatgtcctgg tcccattctgt cagttctgcag gcatttaat ctttcctgag 250
atcccagggc ttagagtacg cagtgacaat tgaggacctg caggcccttt 300
tagacaatga agatgatgaa atgcaacaca atgaaggcga agaacggagc 350
agtaataact tcaactacgg ggcttaccat tccctggaag ctatccatca 400
cgagatggac aacattgccc cagactttcc tgacctggcg aggagggtga 450
agattggaca ttctgttggaa aaccggccga tgtatgtact gaagttcagc 500
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<210> 234

<211> 421

<212> PRT

<213> Homo sapiens

<400> 234

| | | | | | | | | | | | | | | |
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| Met | Arg | Trp | Ile | Leu | Phe | Ile | Gly | Ala | Leu | Ile | Gly | Ser | Ser | Ile |
| 1 | | | | | | | | | | | | | | 15 |
| Cys | Gly | Gln | Glu | Lys | Phe | Phe | Gly | Asp | Gln | Val | Leu | Arg | Ile | Asn |
| | | | | 20 | | | | | 25 | | | | | 30 |
| Val | Arg | Asn | Gly | Asp | Glu | Ile | Ser | Lys | Leu | Ser | Gln | Leu | Val | Asn |
| | | | | | | | | 35 | | 40 | | | | 45 |
| Ser | Asn | Asn | Leu | Lys | Leu | Asn | Phe | Trp | Lys | Ser | Pro | Ser | Ser | Phe |
| | | | | | | | | 50 | | 55 | | | | 60 |
| Asn | Arg | Pro | Val | Asp | Val | Leu | Val | Pro | Ser | Val | Ser | Leu | Gln | Ala |
| | | | | | | | | 65 | | 70 | | | | 75 |
| Phe | Lys | Ser | Phe | Leu | Arg | Ser | Gln | Gly | Leu | Glu | Tyr | Ala | Val | Thr |
| | | | | | | | | 80 | | 85 | | | | 90 |
| Ile | Glu | Asp | Leu | Gln | Ala | Leu | Asp | Asn | Glu | Asp | Asp | Glu | Met | |
| | | | | | | | | 95 | | 100 | | | | 105 |
| Gln | His | Asn | Glu | Gly | Gln | Glu | Arg | Ser | Ser | Asn | Asn | Phe | Asn | Tyr |
| | | | | | | | | 110 | | 115 | | | | 120 |
| Gly | Ala | Tyr | His | Ser | Leu | Glu | Ala | Ile | Tyr | His | Glu | Met | Asp | Asn |
| | | | | | | | | 125 | | 130 | | | | 135 |
| Ile | Ala | Ala | Asp | Phe | Pro | Asp | Leu | Ala | Arg | Arg | Val | Lys | Ile | Gly |
| | | | | | | | | 140 | | 145 | | | | 150 |
| His | Ser | Phe | Glu | Asn | Arg | Pro | Met | Tyr | Val | Leu | Lys | Phe | Ser | Thr |
| | | | | | | | | 155 | | 160 | | | | 165 |

Gly Lys Gly Val Arg Arg Pro Ala Val Trp Leu Asn Ala Gly Ile
 170 175 180
 His Ser Arg Glu Trp Ile Ser Gln Ala Thr Ala Ile Trp Thr Ala
 185 190 195
 Arg Lys Ile Val Ser Asp Tyr Gln Arg Asp Pro Ala Ile Thr Ser
 200 205 210
 Ile Leu Glu Lys Met Asp Ile Phe Leu Leu Pro Val Ala Asn Pro
 215 220 225
 Asp Gly Tyr Val Tyr Thr Gln Thr Gln Asn Arg Leu Trp Arg Lys
 230 235 240
 Thr Arg Ser Arg Asn Pro Gly Ser Ser Cys Ile Gly Ala Asp Pro
 245 250 255
 Asn Arg Asn Trp Asn Ala Ser Phe Ala Gly Lys Gly Ala Ser Asp
 260 265 270
 Asn Pro Cys Ser Glu Val Tyr His Gly Pro His Ala Asn Ser Glu
 275 280 285
 Val Glu Val Lys Ser Val Val Asp Phe Ile Gln Lys His Gly Asn
 290 295 300
 Phe Lys Gly Phe Ile Asp Leu His Ser Tyr Ser Gln Leu Leu Met
 305 310 315
 Tyr Pro Tyr Gly Tyr Ser Val Lys Lys Ala Pro Asp Ala Glu Glu
 320 325 330
 Leu Asp Lys Val Ala Arg Leu Ala Ala Lys Ala Leu Ala Ser Val
 335 340 345
 Ser Gly Thr Glu Tyr Gln Val Gly Pro Thr Cys Thr Thr Val Tyr
 350 355 360
 Pro Ala Ser Gly Ser Ser Ile Asp Trp Ala Tyr Asp Asn Gly Ile
 365 370 375
 Lys Phe Ala Phe Thr Phe Glu Leu Arg Asp Thr Gly Thr Tyr Gly
 380 385 390
 Phe Leu Leu Pro Ala Asn Gln Ile Ile Pro Thr Ala Glu Glu Thr
 395 400 405
 Trp Leu Gly Leu Lys Thr Ile Met Glu His Val Arg Asp Asn Leu
 410 415 420
 Tyr

<210> 235
 <211> 1743
 <212> DNA
 <213> Homo sapiens

<400> 235
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cccggcccttc ctccacaaag agcacccctg cctcacaggt gtattccctc 200
aacaccgact ttgcctccg cctataccgc aggctggttt tggagacccc 250
gagtcagaac atcttcttct cccctgttag tgcctccact tccctggcca 300
tgctctccct tggggccac tcagtcacca agacccagat tctccaggc 350
ctgggcttca acctcacaca cacaccagag tctgccatcc accaggcctt 400
ccagcacctg gttcactcac tgactgttcc cagcaaagac ctgacccctga 450
agatgggaag tgcccttttc gtcaagaagg agctgcagct gcaggcaaat 500
ttcttggca atgtcaagag gctgtatgaa gcagaagtct tttctacaga 550
tttctccaac ccctccattt cccaggcgag gatcaacacgc catgtaaaaa 600
agaagaccca agggaaagggtt gtagacataa tccaaaggcct tgaccccttg 650
acggccatgg ttctggtgaa tcacattttc tttaaagcca agtgggagaa 700
gccctttcac cttgaatata caagaaagaa cttcccatcc ctggggcg 750
agcaggtcac tgtgcaagtc cccatgatgc accagaaaga gcagttcgct 800
tttggggtgg atacagagct gaactgcttt gtgctgcaga tggattacaa 850
gggagatgcc gtggccttct ttgtcctccc tagcaaggc aagatgaggc 900
aacttggaaaca ggccttgcac gccagaacac tgataaagtg gagccactca 950
ctccagaaaaa ggtggataga ggtgttcatc cccagatttt ccatttctgc 1000
ctcctacaat ctggaaacca tcctcccgaa gatgggcatc caaatgcct 1050
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gtttctaaag caacccacaa ggctgtgctg gatgtcagtg aagagggcac 1150
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gtccctctta cttcaactgac tccttcaata ggacccctt gatgtatgatt 1250
acaataaaag ccacagacgg tattctctt ctagggaaag tggaaaatcc 1300
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tgcacaagaa ataacaaacc acatccctct ttctgttctg agggcatt 1400
tgaccccaagt ggagctggat tcgctggcag ggatgccact tccaaaggctc 1450

aatcaccaaa ccatcaacag ggacccaggcacaaggccaa caccattaa 1500
ccccagtcag tgccctttc cacaattct cccaggtaac tagttcatg 1550
ggatgttgct gggttaccat atttccattc cttggggtc ccaggaatgg 1600
aaatacgcca acccaggtta ggcacctcta ttgcagaatt acaataacac 1650
attcaataaa actaaaatat gaattcaaaa aaaaaaaaaa 1700
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1743

<210> 236

<211> 417

<212> PRT

<213> Homo sapiens

<400> 236

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ser | Tyr | Leu | Tyr | Gly | Val | Leu | Phe | Ala | Val | Gly | Leu | Cys |
| 1 | | | | 5 | | | | 10 | | | | | 15 | |
| Ala | Pro | Ile | Tyr | Cys | Val | Ser | Pro | Ala | Asn | Ala | Pro | Ser | Ala | Tyr |
| | | | | 20 | | | | 25 | | | | | 30 | |
| Pro | Arg | Pro | Ser | Ser | Thr | Lys | Ser | Thr | Pro | Ala | Ser | Gln | Val | Tyr |
| | | | | 35 | | | | 40 | | | | | 45 | |
| Ser | Leu | Asn | Thr | Asp | Phe | Ala | Phe | Arg | Leu | Tyr | Arg | Arg | Leu | Val |
| | | | | 50 | | | | 55 | | | | | 60 | |
| Leu | Glu | Thr | Pro | Ser | Gln | Asn | Ile | Phe | Phe | Ser | Pro | Val | Ser | Val |
| | | | | 65 | | | | 70 | | | | | 75 | |
| Ser | Thr | Ser | Leu | Ala | Met | Leu | Ser | Leu | Gly | Ala | His | Ser | Val | Thr |
| | | | | 80 | | | | 85 | | | | | 90 | |
| Lys | Thr | Gln | Ile | Leu | Gln | Gly | Leu | Gly | Phe | Asn | Leu | Thr | His | Thr |
| | | | | 95 | | | | 100 | | | | | 105 | |
| Pro | Glu | Ser | Ala | Ile | His | Gln | Gly | Phe | Gln | His | Leu | Val | His | Ser |
| | | | | 110 | | | | 115 | | | | | 120 | |
| Leu | Thr | Val | Pro | Ser | Lys | Asp | Leu | Thr | Leu | Lys | Met | Gly | Ser | Ala |
| | | | | 125 | | | | 130 | | | | | 135 | |
| Leu | Phe | Val | Lys | Lys | Glu | Leu | Gln | Leu | Gln | Ala | Asn | Phe | Leu | Gly |
| | | | | 140 | | | | 145 | | | | | 150 | |
| Asn | Val | Lys | Arg | Leu | Tyr | Glu | Ala | Glu | Val | Phe | Ser | Thr | Asp | Phe |
| | | | | 155 | | | | 160 | | | | | 165 | |
| Ser | Asn | Pro | Ser | Ile | Ala | Gln | Ala | Arg | Ile | Asn | Ser | His | Val | Lys |
| | | | | 170 | | | | 175 | | | | | 180 | |
| Lys | Lys | Thr | Gln | Gly | Lys | Val | Val | Asp | Ile | Ile | Gln | Gly | Leu | Asp |
| | | | | 185 | | | | 190 | | | | | 195 | |
| Leu | Leu | Thr | Ala | Met | Val | Leu | Val | Asn | His | Ile | Phe | Phe | Lys | Ala |

| | | |
|---|-----|-----|
| 200 | 205 | 210 |
| Lys Trp Glu Lys Pro Phe His Leu Glu Tyr Thr Arg Lys Asn Phe | | |
| 215 | 220 | 225 |
| Pro Phe Leu Val Gly Glu Gln Val Thr Val Gln Val Pro Met Met | | |
| 230 | 235 | 240 |
| His Gln Lys Glu Gln Phe Ala Phe Gly Val Asp Thr Glu Leu Asn | | |
| 245 | 250 | 255 |
| Cys Phe Val Leu Gln Met Asp Tyr Lys Gly Asp Ala Val Ala Phe | | |
| 260 | 265 | 270 |
| Phe Val Leu Pro Ser Lys Gly Lys Met Arg Gln Leu Glu Gln Ala | | |
| 275 | 280 | 285 |
| Leu Ser Ala Arg Thr Leu Ile Lys Trp Ser His Ser Leu Gln Lys | | |
| 290 | 295 | 300 |
| Arg Trp Ile Glu Val Phe Ile Pro Arg Phe Ser Ile Ser Ala Ser | | |
| 305 | 310 | 315 |
| Tyr Asn Leu Glu Thr Ile Leu Pro Lys Met Gly Ile Gln Asn Ala | | |
| 320 | 325 | 330 |
| Phe Asp Lys Asn Ala Asp Phe Ser Gly Ile Ala Lys Arg Asp Ser | | |
| 335 | 340 | 345 |
| Leu Gln Val Ser Lys Ala Thr His Lys Ala Val Leu Asp Val Ser | | |
| 350 | 355 | 360 |
| Glu Glu Gly Thr Glu Ala Thr Ala Ala Thr Thr Thr Lys Phe Ile | | |
| 365 | 370 | 375 |
| Val Arg Ser Lys Asp Gly Pro Ser Tyr Phe Thr Val Ser Phe Asn | | |
| 380 | 385 | 390 |
| Arg Thr Phe Leu Met Met Ile Thr Asn Lys Ala Thr Asp Gly Ile | | |
| 395 | 400 | 405 |
| Leu Phe Leu Gly Lys Val Glu Asn Pro Thr Lys Ser | | |
| 410 | 415 | |

<210> 237

<211> 23

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 237

caaccatgca aggacagggc agg 23

<210> 238

<211> 47
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-47
<223> Synthetic construct.

<400> 238
ctttgctgtt ggcctctgtg ctcccaacca tgcaaggaca gggcagg 47

<210> 239
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 239
tgactcgggg tctccaaaac cagc 24

<210> 240
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 240
ggtataggcg gaaggcaaag tcgg 24

<210> 241
<211> 48
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.

<400> 241
ggcatttac ctttatggag tactctttgc tgttggcctc tgtgctcc 48

<210> 242
<211> 2436
<212> DNA
<213> Homo sapiens

<400> 242
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agctgcccac gcctgagtcc aagattcttc ccaggaacac aaacgttagga 100
gaccacgct cctggaagca ccagcctta tctcttacc ttcaagtccc 150
ctttctcaag aatcctctgt tcttgccct ctaaagtctt ggtacatcta 200
ggacccaggc atcttgctt ccagccacaa agagacagat gaagatgcag 250
aaaggaaatg ttctccttat gtttgtcta ctattgcatt tagaagctgc 300
aacaaattcc aatgagacta gcacctctgc caacactgga tccagtgtga 350
tctccagtgg agccagcaca gccaccaact ctgggtccag tgtgacctcc 400
agtggggtca gcacagccac catctcaggg tccagcgtga cctccaatgg 450
ggtcagcata gtcaccaact ctgagttcca tacaacctcc agtgggatca 500
gcacagccac caactctgag ttcagcacag cgtccagtgg gatcagcata 550
gccaccaact ctgagtcag cacaacctcc agtggggcca gcacagccac 600
caactctgag tccagcacac cctccagtgg ggccagcaca gtcaccaact 650
ctgggtccag tgtgacctcc agtggagcca gcactgccac caactctgag 700
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cacactctcc agtggggcca gcacagccac caactctgac tccagcacaa 800
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gcacagccac caactctgag tccagaacga cctccaatgg ggctggcaca 1000
gccaccaact ctgagtcag cacgacctcc agtggggcca gcacagccac 1050
caactctgac tccagcacag tgtccagtgg ggccagcact gccaccaact 1100
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agtggggcca acacagccac caactctgag tccagtagca cctccagtgg 1350
ggccaacaca gccaccaact ctgagtcag cacagtgtcc agtggggcca 1400
gcactgccac caactctgag tccagcacaa cctccagtgg ggtcagcaca 1450
gccaccaact ctgagtcag cacaacctcc agtggggcta gcacagccac 1500

ESTABLISHED 1970

caactctgac tccagcacaa cctccagtga ggccagcaca gccacccaact 1550
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cattcatccc aggagacccc tccagcttt gttttagatc ctgaaaatct 2150
tgaagaaggt attcctcacc tttcttgcct ttaccagaca ctggaaagag 2200
aatactatat tgctcattta gctaagaaat aaatacatct catctaacac 2250
acacgacaaa gagaagctgt gctgccccg gggtgggtat ctagctctga 2300
gatgaactca gttataggag aaaacctcca tgctggactc catctggcat 2350
tcaaaatctc cacagtaaaa tccaaagacc taaaaaaaaaaaaaaa 2400
aaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa aaaaaaa 2436

<210> 243

<211> 596

<212> PRT

<213> Homo sapiens

<400> 243

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Met | Gln | Lys | Gly | Asn | Val | Leu | Leu | Met | Phe | Gly | Leu | Leu |
| 1 | | | | 5 | | | | 10 | | | | | 15 | |
| Leu | His | Leu | Glu | Ala | Ala | Thr | Asn | Ser | Asn | Glu | Thr | Ser | Thr | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | |
| Ala | Asn | Thr | Gly | Ser | Ser | Val | Ile | Ser | Ser | Gly | Ala | Ser | Thr | Ala |
| | | | | 35 | | | | 40 | | | | | 45 | |
| Thr | Asn | Ser | Gly | Ser | Ser | Val | Thr | Ser | Ser | Gly | Val | Ser | Thr | Ala |
| | | | | 50 | | | | 55 | | | | | 60 | |
| Thr | Ile | Ser | Gly | Ser | Ser | Val | Thr | Ser | Asn | Gly | Val | Ser | Ile | Val |
| | | | | 65 | | | | 70 | | | | | 75 | |

Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala
80 85 90

Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala
95 100 105

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
110 115 120

Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Ser Thr Val
125 130 135

Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Ala Ser Thr Ala
140 145 150

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala
155 160 165

Thr Asn Ser Glu Ser Ser Thr Leu Ser Ser Gly Ala Ser Thr Ala
170 175 180

Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
185 190 195

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
200 205 210

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala
215 220 225

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
230 235 240

Thr Asn Ser Glu Ser Arg Thr Thr Ser Asn Gly Ala Gly Thr Ala
245 250 255

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
260 265 270

Thr Asn Ser Asp Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala
275 280 285

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
290 295 300

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
305 310 315

Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Gly Thr Ala
320 325 330

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val
335 340 345

Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Asn Thr Ala
350 355 360

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala

| | | | |
|---|-----|-----|-----|
| | 365 | 370 | 375 |
| Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala | | | |
| 380 | 385 | 390 | |
| Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Val Ser Thr Ala | | | |
| 395 | 400 | 405 | |
| Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala | | | |
| 410 | 415 | 420 | |
| Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala | | | |
| 425 | 430 | 435 | |
| Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val | | | |
| 440 | 445 | 450 | |
| Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala | | | |
| 455 | 460 | 465 | |
| Thr Asn Ser Gly Ser Ser Val Thr Ser Ala Gly Ser Gly Thr Ala | | | |
| 470 | 475 | 480 | |
| Ala Leu Thr Gly Met His Thr Thr Ser His Ser Ala Ser Thr Ala | | | |
| 485 | 490 | 495 | |
| Val Ser Glu Ala Lys Pro Gly Gly Ser Leu Val Pro Trp Glu Ile | | | |
| 500 | 505 | 510 | |
| Phe Leu Ile Thr Leu Val Ser Val Val Ala Ala Val Gly Leu Phe | | | |
| 515 | 520 | 525 | |
| Ala Gly Leu Phe Phe Cys Val Arg Asn Ser Leu Ser Leu Arg Asn | | | |
| 530 | 535 | 540 | |
| Thr Phe Asn Thr Ala Val Tyr His Pro His Gly Leu Asn His Gly | | | |
| 545 | 550 | 555 | |
| Leu Gly Pro Gly Pro Gly Gly Asn His Gly Ala Pro His Arg Pro | | | |
| 560 | 565 | 570 | |
| Arg Trp Ser Pro Asn Trp Phe Trp Arg Arg Pro Val Ser Ser Ile | | | |
| 575 | 580 | 585 | |
| Ala Met Glu Met Ser Gly Arg Asn Ser Gly Pro | | | |
| 590 | 595 | | |

<210> 244
<211> 26
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.

<400> 244

gaagcaccag cctttatctc ttcacc 26
<210> 245
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic sequence.

<400> 245
gtcaagttg gtggctgtgc tagc 24

<210> 246
<211> 48
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.

<400> 246
ggacccaggc atcttgcttt ccagccacaa agagacagat gaagatgc 48

<210> 247
<211> 957
<212> DNA
<213> Homo sapiens

<400> 247
gggagagagg ataaatagca gcgtggcttc cctggctcct ctctgcattcc 50
ttcccgacct tcccagcaat atgcatttg cacgtctggt cggctcctgc 100
tccctccttc tgctactggg ggcctgtct ggatggcg 150
ccccatttag aaggtcattt aaggatcaa ccgagggtc agcaatgcag 200
agagagaggt gggcaaggcc ctggatggca tcaacagtgg aatcacgcatt 250
gccggaaggaa aagtggagaa ggtttcaac ggacttagca acatggggag 300
ccacaccggc aaggagttgg acaaaggcgt ccaggggctc aaccacggca 350
tggacaaggat tgcccatgag atcaaccatg gtattggaca agcaggaaag 400
gaagcagaga agcttggcca tgggtcaac aacgctgctg gacaggccgg 450
gaaggaagca gacaaagcgg tccaagggtt ccacactggg gtccaccagg 500
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ccagcaagga ggccaaccag ctgctgaatg gcaaccatca aaggcgatct 700
tccagccatc aaggaggggc cacaaccacg ccgttagcct ctggggcctc 750
agtcaacacg cctttcatca accttcccgc cctgtggagg agcgtcgcca 800
acatcatgcc ctaaactggc atccggcctt gctggagaa taatgtcgcc 850
gttgcacat cagctgacat gacctggagg ggttgggggt gggggacagg 900
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tacacca 957

<210> 248

<211> 247

<212> PRT

<213> Homo sapiens

<400> 248

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | His | Leu | Ala | Arg | Leu | Val | Gly | Ser | Cys | Ser | Leu | Leu | Leu | Leu |
| 1 | | | | | 5 | | | | 10 | | | | | 15 |
| Leu | Gly | Ala | Leu | Ser | Gly | Trp | Ala | Ala | Ser | Asp | Asp | Pro | Ile | Glu |
| | | | | 20 | | | | | 25 | | | | | 30 |
| Lys | Val | Ile | Glu | Gly | Ile | Asn | Arg | Gly | Leu | Ser | Asn | Ala | Glu | Arg |
| | | | | | 35 | | | | 40 | | | | | 45 |
| Glu | Val | Gly | Lys | Ala | Leu | Asp | Gly | Ile | Asn | Ser | Gly | Ile | Thr | His |
| | | | | | 50 | | | | 55 | | | | | 60 |
| Ala | Gly | Arg | Glu | Val | Glu | Lys | Val | Phe | Asn | Gly | Leu | Ser | Asn | Met |
| | | | | | 65 | | | | 70 | | | | | 75 |
| Gly | Ser | His | Thr | Gly | Lys | Glu | Leu | Asp | Lys | Gly | Val | Gln | Gly | Leu |
| | | | | | 80 | | | | 85 | | | | | 90 |
| Asn | His | Gly | Met | Asp | Lys | Val | Ala | His | Glu | Ile | Asn | His | Gly | Ile |
| | | | | | 95 | | | | 100 | | | | | 105 |
| Gly | Gln | Ala | Gly | Lys | Glu | Ala | Glu | Lys | Leu | Gly | His | Gly | Val | Asn |
| | | | | | 110 | | | | 115 | | | | | 120 |
| Asn | Ala | Ala | Gly | Gln | Ala | Gly | Lys | Glu | Ala | Asp | Lys | Ala | Val | Gln |
| | | | | | 125 | | | | 130 | | | | | 135 |
| Gly | Phe | His | Thr | Gly | Val | His | Gln | Ala | Gly | Lys | Glu | Ala | Glu | Lys |
| | | | | | 140 | | | | 145 | | | | | 150 |
| Leu | Gly | Gln | Gly | Val | Asn | His | Ala | Ala | Asp | Gln | Ala | Gly | Lys | Glu |
| | | | | | 155 | | | | 160 | | | | | 165 |
| Val | Glu | Lys | Leu | Gly | Gln | Gly | Ala | His | His | Ala | Ala | Gly | Gln | Ala |
| | | | | | 170 | | | | 175 | | | | | 180 |

Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser
185 190 195
Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser
200 205 210
Ser Ser His Gln Gly Gly Ala Thr Thr Pro Leu Ala Ser Gly
215 220 225
Ala Ser Val Asn Thr Pro Phe Ile Asn Leu Pro Ala Leu Trp Arg
230 235 240
Ser Val Ala Asn Ile Met Pro
245

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<211> 23
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<211> 837

<212> PRT

<213> Homo sapiens

<400> 253

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| 1 | | | | | 5 | | | | 10 | | | | | 15 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Gly | Ala | Leu | Pro | Pro | Arg | Pro | Pro | Ley | Leu | Leu | Leu | Leu | Leu |
| | | | | 20 | | | | | 25 | | | | | 30 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Leu | Leu | Leu | Gln | Pro | Pro | Pro | Pro | Thr | Trp | Ala | Leu | Ser |
| | | | | | 35 | | | | | 40 | | | | 45 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Arg | Ile | Ser | Leu | Pro | Leu | Gly | Ser | Glu | Glu | Arg | Pro | Phe | Leu |
| | | | | 50 | | | | | 55 | | | | | 60 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Phe | Glu | Ala | Glu | His | Ile | Ser | Asn | Tyr | Thr | Ala | Leu | Leu | Leu |
| | | | | | .65 | | | | 70 | | | | | 75 |

Ser Arg Asp Gly Arg Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu

| 80 | 85 | 90 |
|---|-------------------------|-----|
| Phe Ala Leu Ser Ser Asn Leu Ser Phe | Leu Pro Gly Gly Glu | Tyr |
| 95 | 100 | 105 |
| Gln Glu Leu Leu Trp Gly Ala Asp Ala | Glu Lys Lys Gln Gln Cys | |
| 110 | 115 | 120 |
| Ser Phe Lys Gly Lys Asp Pro Gln Arg | Asp Cys Gln Asn Tyr Ile | |
| 125 | 130 | 135 |
| Lys Ile Leu Leu Pro Leu Ser Gly Ser His | Leu Phe Thr Cys Gly | |
| 140 | 145 | 150 |
| Thr Ala Ala Phe Ser Pro Met Cys Thr | Tyr Ile Asn Met Glu Asn | |
| 155 | 160 | 165 |
| Phe Thr Leu Ala Arg Asp Glu Lys Gly | Asn Val Leu Leu Glu Asp | |
| 170 | 175 | 180 |
| Gly Lys Gly Arg Cys Pro Phe Asp Pro | Asn Phe Lys Ser Thr Ala | |
| 185 | 190 | 195 |
| Leu Val Val Asp Gly Glu Leu Tyr Thr | Gly Thr Val Ser Ser Phe | |
| 200 | 205 | 210 |
| Gln Gly Asn Asp Pro Ala Ile Ser Arg | Ser Gln Ser Leu Arg Pro | |
| 215 | 220 | 225 |
| Thr Lys Thr Glu Ser Ser Leu Asn Trp | Leu Gln Asp Pro Ala Phe | |
| 230 | 235 | 240 |
| Val Ala Ser Ala Tyr Ile Pro Glu Ser | Leu Gly Ser Leu Gln Gly | |
| 245 | 250 | 255 |
| Asp Asp Asp Lys Ile Tyr Phe Phe | Ser Glu Thr Gly Gln Glu | |
| 260 | 265 | 270 |
| Phe Glu Phe Phe Glu Asn Thr Ile Val | Ser Arg Ile Ala Arg Ile | |
| 275 | 280 | 285 |
| Cys Lys Gly Asp Glu Gly Glu Arg Val | Leu Gln Gln Arg Trp | |
| 290 | 295 | 300 |
| Thr Ser Phe Leu Lys Ala Gln Leu Leu | Cys Ser Arg Pro Asp Asp | |
| 305 | 310 | 315 |
| Gly Phe Pro Phe Asn Val Leu Gln Asp | Val Phe Thr Leu Ser Pro | |
| 320 | 325 | 330 |
| Ser Pro Gln Asp Trp Arg Asp Thr Leu | Phe Tyr Gly Val Phe Thr | |
| 335 | 340 | 345 |
| Ser Gln Trp His Arg Gly Thr Thr Glu | Gly Ser Ala Val Cys Val | |
| 350 | 355 | 360 |
| Phe Thr Met Lys Asp Val Gln Arg Val | Phe Ser Gly Leu Tyr Lys | |
| 365 | 370 | 375 |

Glu Val Asn Arg Glu Thr Gln Gln Trp Tyr Thr Val Thr His Pro
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Val Pro Thr Pro Arg Pro Gly Ala Cys Ile Thr Asn Ser Ala Arg
395 400 405

Glu Arg Lys Ile Asn Ser Ser Leu Gln Leu Pro Asp Arg Val Leu
410 415 420

Asn Phe Leu Lys Asp His Phe Leu Met Asp Gly Gln Val Arg Ser
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Arg Met Leu Leu Leu Gln Pro Gln Ala Arg Tyr Gln Arg Val Ala
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Val His Arg Val Pro Gly Leu His His Thr Tyr Asp Val Leu Phe
455 460 465

Leu Gly Thr Gly Asp Gly Arg Leu His Lys Ala Val Ser Val Gly
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Pro Arg Val His Ile Ile Glu Glu Leu Gln Ile Phe Ser Ser Gly
485 490 495

Gln Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu
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Tyr Ala Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn
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Cys Ser Leu Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp
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Pro Tyr Cys Ala Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu
545 550 555

Tyr Gln Pro Gln Leu Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu
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Gly Ala Ser Ala Lys Asp Leu Cys Ser Ala Ser Ser Val Val Ser
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Pro Ser Phe Val Pro Thr Gly Glu Lys Pro Cys Glu Gln Val Gln
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Phe Gln Pro Asn Thr Val Asn Thr Leu Ala Cys Pro Leu Leu Ser
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Asn Leu Ala Thr Arg Leu Trp Leu Arg Asn Gly Ala Pro Val Asn
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Ala Ser Ala Ser Cys His Val Leu Pro Thr Gly Asp Leu Leu Leu
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Val Gly Thr Gln Gln Leu Gly Glu Phe Gln Cys Trp Ser Leu Glu
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Glu Gly Phe Gln Gln Leu Val Ala Ser Tyr Cys Pro Glu Val Val

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| 680 | 685 | 690 |
| Val Ile Ile Ser Thr Ser Arg Val Ser Ala Pro Ala Gly Gly Lys | | |
| 695 | 700 | 705 |
| Ala Ser Trp Gly Ala Asp Arg Ser Tyr Trp Lys Glu Phe Leu Val | | |
| 710 | 715 | 720 |
| Met Cys Thr Leu Phe Val Leu Ala Val Leu Leu Pro Val Leu Phe | | |
| 725 | 730 | 735 |
| Leu Leu Tyr Arg His Arg Asn Ser Met Lys Val Phe Leu Lys Gln | | |
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| Gly Glu Cys Ala Ser Val His Pro Lys Thr Cys Pro Val Val Leu | | |
| 755 | 760 | 765 |
| Pro Pro Glu Thr Arg Pro Leu Asn Gly Leu Gly Pro Pro Ser Thr | | |
| 770 | 775 | 780 |
| Pro Leu Asp His Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Pro | | |
| 785 | 790 | 795 |
| Gly Ala Arg Val Phe Thr Glu Ser Glu Lys Arg Pro Leu Ser Ile | | |
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| Gln Asp Ser Phe Val Glu Val Ser Pro Val Cys Pro Arg Pro Arg | | |
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<212> PRT

<213> Homo sapiens

<400> 260

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20 25 30

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35 40 45

Glu Gly Cys Arg Ser Gly Gln Ala Ala Ser Gln Ala Gly Gly
50 55 60

Ala Arg Gly Asp Ala Arg Gly Ala Gln Leu Trp Pro Pro Gly Ser
65 70 75

Asp Pro Asp Gly Gly Pro Arg Asp Arg Asn Phe Leu Phe Val Gly
80 85 90

Val Met Thr Ala Gln Lys Tyr Leu Gln Thr Arg Ala Val Ala Ala
95 100 105

Tyr Arg Thr Trp Ser Lys Thr Ile Pro Gly Lys Val Gln Phe Phe
110 115 120

Ser Ser Glu Gly Ser Asp Thr Ser Val Pro Ile Pro Val Val Pro
125 130 135

Leu Arg Gly Val Asp Asp Ser Tyr Pro Pro Gln Lys Lys Ser Phe
140 145 150

Met Met Leu Lys Tyr Met His Asp His Tyr Leu Asp Lys Tyr Glu
155 160 165

Trp Phe Met Arg Ala Asp Asp Asp Val Tyr Ile Lys Gly Asp Arg
170 175 180

Leu Glu Asn Phe Leu Arg Ser Leu Asn Ser Ser Glu Pro Leu Phe
185 190 195

Leu Gly Gln Thr Gly Leu Gly Thr Thr Glu Glu Met Gly Lys Leu
200 205 210

Ala Leu Glu Pro Gly Glu Asn Phe Cys Met Gly Gly Pro Gly Val
215 220 225

Ile Met Ser Arg Glu Val Leu Arg Arg Met Val Pro His Ile Gly
230 235 240

Lys Cys Leu Arg Glu Met Tyr Thr Thr His Glu Asp Val Glu Val
 245 250 255
 Gly Arg Cys Val Arg Arg Phe Ala Gly Val Gln Cys Val Trp Ser
 260 265 270
 Tyr Glu Met Arg Gln Leu Phe Tyr Glu Asn Tyr Glu Gln Asn Lys
 275 280 285
 Lys Gly Tyr Ile Arg Asp Leu His Asn Ser Lys Ile His Gln Ala
 290 295 300
 Ile Thr Leu His Pro Asn Lys Asn Pro Pro Tyr Gln Tyr Arg Leu
 305 310 315
 His Ser Tyr Met Leu Ser Arg Lys Ile Ser Glu Leu Arg His Arg
 320 325 330
 Thr Ile Gln Leu His Arg Glu Ile Val Leu Met Ser Lys Tyr Ser
 335 340 345
 Asn Thr Glu Ile His Lys Glu Asp Leu Gln Leu Gly Ile Pro Pro
 350 355 360
 Ser Phe Met Arg Phe Gln Pro Arg Gln Arg Glu Glu Ile Leu Glu
 365 370 375
 Trp Glu Phe Leu Thr Gly Lys Tyr Leu Tyr Ser Ala Val Asp Gly
 380 385 390
 Gln Pro Pro Arg Arg Gly Met Asp Ser Ala Gln Arg Glu Ala Leu
 395 400 405
 Asp Asp Ile Val Met Gln Val Met Glu Met Ile Asn Ala Asn Ala
 410 415 420
 Lys Thr Arg Gly Arg Ile Ile Asp Phe Lys Glu Ile Gln Tyr Gly
 425 430 435
 Tyr Arg Arg Val Asn Pro Met Tyr Gly Ala Glu Tyr Ile Leu Asp
 440 445 450
 Leu Leu Leu Tyr Lys Lys His Lys Gly Lys Lys Met Thr Val
 455 460 465
 Pro Val Arg Arg His Ala Tyr Leu Gln Gln Thr Phe Ser Lys Ile
 470 475 480
 Gln Phe Val Glu His Glu Glu Leu Asp Ala Gln Glu Leu Ala Lys
 485 490 495
 Arg Ile Asn Gln Glu Ser Gly Ser Leu Ser Phe Leu Ser Asn Ser
 500 505 510
 Leu Lys Lys Leu Val Pro Phe Gln Leu Pro Gly Ser Lys Ser Glu
 515 520 525
 His Lys Glu Pro Lys Asp Lys Lys Ile Asn Ile Leu Ile Pro Leu

| | | |
|-------------------------------------|-------------------------|-----|
| 530 | 535 | 540 |
| Ser Gly Arg Phe Asp Met Phe Val Arg | Phe Met Gly Asn Phe | Glu |
| 545 | 550 | 555 |
| Lys Thr Cys Leu Ile Pro Asn Gln Asn | Val Lys Leu Val Val | Leu |
| 560 | 565 | 570 |
| Leu Phe Asn Ser Asp Ser Asn Pro Asp | Lys Ala Lys Gln Val | Glu |
| 575 | 580 | 585 |
| Leu Met Arg Asp Tyr Arg Ile Lys Tyr | Pro Lys Ala Asp Met | Gln |
| 590 | 595 | 600 |
| Ile Leu Pro Val Ser Gly Glu Phe Ser | Arg Ala Leu Ala Leu | Glu |
| 605 | 610 | 615 |
| Val Gly Ser Ser Gln Phe Asn Asn Glu | Ser Leu Leu Phe Phe | Cys |
| 620 | 625 | 630 |
| Asp Val Asp Leu Val Phe Thr Thr Glu | Phe Leu Gln Arg Cys | Arg |
| 635 | 640 | 645 |
| Ala Asn Thr Val Leu Gly Gln Gln | Ile Tyr Phe Pro Ile Ile | Phe |
| 650 | 655 | 660 |
| Ser Gln Tyr Asp Pro Lys Ile Val Tyr | Ser Gly Lys Val Pro | Ser |
| 665 | 670 | 675 |
| Asp Asn His Phe Ala Phe Thr Gln Lys | Thr Gly Phe Trp Arg | Asn |
| 680 | 685 | 690 |
| Tyr Gly Phe Gly Ile Thr Cys Ile Tyr | Lys Gly Asp Leu Val | Arg |
| 695 | 700 | 705 |
| Val Gly Gly Phe Asp Val Ser Ile Gln | Gly Trp Gly Leu Glu | Asp |
| 710 | 715 | 720 |
| Val Asp Leu Phe Asn Lys Val Val Gln | Ala Gly Leu Lys Thr | Phe |
| 725 | 730 | 735 |
| Arg Ser Gln Glu Val Gly Val Val His | Val His His Pro Val | Phe |
| 740 | 745 | 750 |
| Cys Asp Pro Asn Leu Asp Pro Lys Gln | Tyr Lys Met Cys Leu | Gly |
| 755 | 760 | 765 |
| Ser Lys Ala Ser Thr Tyr Gly Ser Thr | Gln Gln Leu Ala Glu | Met |
| 770 | 775 | 780 |
| Trp Leu Glu Lys Asn Asp Pro Ser Tyr | Ser Lys Ser Ser Asn | Asn |
| 785 | 790 | 795 |
| Asn Gly Ser Val Arg Thr Ala | | |
| 800 | | |

<210> 261

<211> 24

<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 261
gtgccactac ggggtgtgga cgac 24

<210> 262
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 262
tcccatttct tccgtgggc ccag 24

<210> 263
<211> 46
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.

<400> 263
ccagaagaag tccttcatga tgctcaagta catgcacgac cactac 46

<210> 264
<211> 1419
<212> DNA
<213> Homo sapiens

<400> 264
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tgacacccttc ccttcggcc ttgagggtcc cagcctggtg gcccccaggac 100
gttccggctcg catggcagag tgctacggac gacgcctatg aagcccttag 150
tccttctagt tgcgcttttgc ctatggcctt cgtctgtgcc ggcttatccg 200
agcataactg tgacacccgtaa tgaagagcaa aacttgaatc attatataca 250
agtttttagag aaccttagtac gaagtgttcc ctctggggag ccaggtcgtg 300
agaaaaaaatc taactctcca aaacatgttt attctatagc atcaaaggaa 350
tcaaaaattta aggagctagt tacacatgga gacgcttcaa ctgagaatga 400

1000111111111111

tgtttaacc aatcctatca gtgaagaaac tacaactttc cctacaggag 450
gcttcacacc ggaaatagga aagaaaaaac acacggaaag taccccatc 500
tggtcgatca aaccaaacaa tgttccatt gtttgcatg cagaggaacc 550
ttatattgaa aatgaagagc cagagccaga gccggagcca gctgcaaaac 600
aaactgaggc accaagaatg ttgcagttg ttactgaatc atctacaagt 650
ccatatgtta cctcatacaa gtcacctgtc accacttag ataagagcac 700
tggcattgag atctctacag aatcagaaga tgttcctcag ctctcaggtg 750
aaactgcgat agaaaaaccc gaagagttt gaaagcaccc agagagttgg 800
aataatgatg acattttgaa aaaaattttt gatattaatt cacaagtgc 850
acaggcactt cttagtgaca ccagcaaccc agcatataga gaagatattg 900
aagcctctaa agatcaccta aaacgaagcc ttgctctagc agcagcagca 950
gaacataaat taaaaacaat gtataagtcc cagttattgc cagtaggacg 1000
aacaagtaat aaaattgatg acatcgaaac tgttattaac atgctgtgt 1050
attctagatc taaactctat gaatatttag atattaaatg tgttccacca 1100
gagatgagag aaaaagctgc tacagtattc aatacatcaa aaaatatgt 1150
tagatcaagg agagtcacag ccttattaaa agtttattaa acaataat 1200
aaaaattttt aacctacttg atattccata acaaagctga ttaagcaaa 1250
ctgcatttt tcacaggaga aataatcata ttgcataattt caaaagttgt 1300
ataaaaatat tttctattgt agttcaaatg tgccaaatc tttatgtgtc 1350
atgtgttatg aacaattttc atatgcacta aaaacctaatt taaaataaa 1400
atttggttc aggaaaaaaaa 1419

<210> 265
<211> 350
<212> PRT
<213> Homo sapiens

<400> 265
Met Lys Pro Leu Val Leu Leu Val Ala Leu Leu Leu Trp Pro Ser
1 5 10 15
Ser Val Pro Ala Tyr Pro Ser Ile Thr Val Thr Pro Asp Glu Glu
20 25 30
Gln Asn Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg
35 40 45
Ser Val Pro Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser

| 50 | 55 | 60 |
|---|-----|-----|
| Pro Lys His Val Tyr Ser Ile Ala Ser Lys Gly Ser Lys Phe Lys | | |
| 65 | 70 | 75 |
| Glu Leu Val Thr His Gly Asp Ala Ser Thr Glu Asn Asp Val Leu | | |
| 80 | 85 | 90 |
| Thr Asn Pro Ile Ser Glu Glu Thr Thr Phe Pro Thr Gly Gly | | |
| 95 | 100 | 105 |
| Phe Thr Pro Glu Ile Gly Lys Lys Lys His Thr Glu Ser Thr Pro | | |
| 110 | 115 | 120 |
| Phe Trp Ser Ile Lys Pro Asn Asn Val Ser Ile Val Leu His Ala | | |
| 125 | 130 | 135 |
| Glu Glu Pro Tyr Ile Glu Asn Glu Glu Pro Glu Pro Glu Pro Glu | | |
| 140 | 145 | 150 |
| Pro Ala Ala Lys Gln Thr Glu Ala Pro Arg Met Leu Pro Val Val | | |
| 155 | 160 | 165 |
| Thr Glu Ser Ser Thr Ser Pro Tyr Val Thr Ser Tyr Lys Ser Pro | | |
| 170 | 175 | 180 |
| Val Thr Thr Leu Asp Lys Ser Thr Gly Ile Glu Ile Ser Thr Glu | | |
| 185 | 190 | 195 |
| Ser Glu Asp Val Pro Gln Leu Ser Gly Glu Thr Ala Ile Glu Lys | | |
| 200 | 205 | 210 |
| Pro Glu Glu Phe Gly Lys His Pro Glu Ser Trp Asn Asn Asp Asp | | |
| 215 | 220 | 225 |
| Ile Leu Lys Lys Ile Leu Asp Ile Asn Ser Gln Val Gln Gln Ala | | |
| 230 | 235 | 240 |
| Leu Leu Ser Asp Thr Ser Asn Pro Ala Tyr Arg Glu Asp Ile Glu | | |
| 245 | 250 | 255 |
| Ala Ser Lys Asp His Leu Lys Arg Ser Leu Ala Leu Ala Ala Ala | | |
| 260 | 265 | 270 |
| Ala Glu His Lys Leu Lys Thr Met Tyr Lys Ser Gln Leu Leu Pro | | |
| 275 | 280 | 285 |
| Val Gly Arg Thr Ser Asn Lys Ile Asp Asp Ile Glu Thr Val Ile | | |
| 290 | 295 | 300 |
| Asn Met Leu Cys Asn Ser Arg Ser Lys Leu Tyr Glu Tyr Leu Asp | | |
| 305 | 310 | 315 |
| Ile Lys Cys Val Pro Pro Glu Met Arg Glu Lys Ala Ala Thr Val | | |
| 320 | 325 | 330 |
| Phe Asn Thr Leu Lys Asn Met Cys Arg Ser Arg Arg Val Thr Ala | | |
| 335 | 340 | 345 |

Leu Leu Lys Val Tyr
350

<210> 266

<211> 2403

<212> DNA

<213> Homo sapiens

<400> 266

cggttcgagc ggctcgagt g aagagcctct ccacggctcc tgccgcgt 50
acagctggcc tgacctccaa atcatccatc cacccctgct gtcatctgtt 100
ttcatagtgt gagatcaacc cacaggaata tccatggct ttgtgctcat 150
tttggttctc agtttctacg agctgggtgc aggacagtgg caagtcactg 200
gaccggcaa gtttgtccag gccttggtgg gggaggacgc cgtgttctcc 250
tgctccctct ttcctgagac cagtgcagag gctatgaaag tgccgttctt 300
caggaatcag ttccatgctg tggtccaccc ctacagagat gggaaagact 350
ggaaatctaa gcagatgcca cagtatcgag ggagaactga gtttgtaaag 400
gactccattt caggggggcg tgtctctcta aggctaaaaa acatcactcc 450
ctcggacatc ggcctgtatg ggtgtggtt cagttcccag atttacgtt 500
aggaggccac ctgggagctg cgggtggcag cactgggctc acttcctctc 550
atttccatcg tggatatgt tgacggaggt atccagttac tctgcgttgc 600
ctcaggctgg ttccccccagc ccacagccaa gtggaaaggt ccacaaggac 650
aggatttgc ttcagactcc agagcaaatg cagatggta cagcctgtat 700
gatgtggaga tctccattat agtccaggaa aatgctggta gcattttgtt 750
ttccatccac cttgctgagc agagtcatga ggtggaaatcc aaggtattga 800
taggagagac gttttccag ccctcacctt ggccgttggc ttctatTTA 850
ctcgggttac tctgtgggtgc cctgtgtggt gttgtcatgg ggatgataat 900
tgttttcttc aaatccaaag ggaaaatcca ggcggaaactg gactggagaa 950
gaaagcacgg acaggcagaa ttgagagacg cccggaaaca cgcaatggag 1000
gtgactctgg atccagagac ggctcacccg aagctctgct tttctgtatct 1050
gaaaactgtt acccatagaa aagctccccg ggaggtgcct cactctgaga 1100
agagatttac aaggaagagt gtgggtggctt ctcagggttt ccaaggcagg 1150
agacattact gggaggtgga cgtgggacaa aatgttaggtt ggtatgtggg 1200
agtgtgtcgg gatgacgtt acagggggaa gaacaatgtt actttgtctc 1250

ccaacaatgg gtattgggtc ctcagactga caacagaaca tttgtatttc 1300
acattcaatc cccatTTTat cagcctcccc cccAGCACCC ctcctACACG 1350
agttaggggtc ttccCTGGact atgaggGTgg gaccatCTCC ttcttCAATA 1400
caaATgacca gTCCTTATT tataCCCTGC tgACATgtca gTTTGAAGGC 1450
ttgttgagac CCTATATCCA gcatgcgatg tatgacgagg aaaAGGGGAC 1500
tcccataTTc atatgtccag tgtCCTGGGG atgagacaga gaagACCCTG 1550
cttaaAGGGC CCCACACAC agACCCAGAC acAGCCAAGG gagAGTGCTC 1600
ccgacAGGTG gCCCCAGCTT CCTCTCCGGA gcCTGCGCAC AGAGAGTCAC 1650
gCCCCCAct CTCCCTTAGG gagCTGAGGT tCTTCTGCC TGAGCCCTGC 1700
agcAGCGGCA gTCACAGCTT ccAGATGAGG gGGGATTGGC ctGACCCTGT 1750
gggAGTCAGA agCCATGGCT gCCCTGAAGT gGGGACGGAA tagACTCACA 1800
ttAGGTTAG tttgtaaaaa CTCCATCCAG ctaAGCGATC ttGAACAAGT 1850
cacaACCTCC caggCTCCTC attTGCTAGT cacGGACAGT gattCCTGCC 1900
tcacAGGTGA agATTAAGA gacaACGAAT gtGAATCATG ctTGAGGTT 1950
tgAGGGCACA gtGTTTGCTA atGATGTGTT ttTATATTAT acATTTCCC 2000
accataAAACT ctGTTTGCTT attCCACATT aATTACTTT tCTCTATAcc 2050
aaATCACCCA tGGAATAGTT attGAACACC tgCTTGTGA ggCTCAAAGA 2100
ataAAAGAGGA ggtAGGATTt tTCACTGATT ctATAAGCCC agCATTACCT 2150
gataCCAAAA ccAGGCAAAG AAAACAGAAg aAGAGGAAGG AAAACTACAG 2200
gtCCATATCC CTCATTAACA cAGACACAAA aATTCTAAAT AAAATTAA 2250
caaATTAAC TAAACAATAT attTAAAGAT gATATATAAC tactCAGTGT 2300
ggTTTGTCCC acAAATGCAg agTTGGTTA atATTTAAAT atCAACCAGT 2350
gtaATTcAGC acATTAATAA agTAAAAAAG AAAACCATAA AAAAAAAA 2400
aaa 2403

<210> 267
<211> 466
<212> PRT
<213> Homo sapiens

<400> 267
Met Ala Phe Val Leu Ile Leu Val Leu Ser Phe Tyr Glu Leu Val
1 5 10 15
Ser Gly Gln Trp Gln Val Thr Gly Pro Gly Lys Phe Val Gln Ala

| 20 | 25 | 30 |
|---|-----|-----|
| Leu Val Gly Glu Asp Ala Val Phe Ser Cys Ser Leu Phe Pro Glu | | |
| 35 | 40 | 45 |
| Thr Ser Ala Glu Ala Met Glu Val Arg Phe Phe Arg Asn Gln Phe | | |
| 50 | 55 | 60 |
| His Ala Val Val His Leu Tyr Arg Asp Gly Glu Asp Trp Glu Ser | | |
| 65 | 70 | 75 |
| Lys Gln Met Pro Gln Tyr Arg Gly Arg Thr Glu Phe Val Lys Asp | | |
| 80 | 85 | 90 |
| Ser Ile Ala Gly Gly Arg Val Ser Leu Arg Leu Lys Asn Ile Thr | | |
| 95 | 100 | 105 |
| Pro Ser Asp Ile Gly Leu Tyr Gly Cys Trp Phe Ser Ser Gln Ile | | |
| 110 | 115 | 120 |
| Tyr Asp Glu Glu Ala Thr Trp Glu Leu Arg Val Ala Ala Leu Gly | | |
| 125 | 130 | 135 |
| Ser Leu Pro Leu Ile Ser Ile Val Gly Tyr Val Asp Gly Gly Ile | | |
| 140 | 145 | 150 |
| Gln Leu Leu Cys Leu Ser Ser Gly Trp Phe Pro Gln Pro Thr Ala | | |
| 155 | 160 | 165 |
| Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Ser Asp Ser Arg | | |
| 170 | 175 | 180 |
| Ala Asn Ala Asp Gly Tyr Ser Leu Tyr Asp Val Glu Ile Ser Ile | | |
| 185 | 190 | 195 |
| Ile Val Gln Glu Asn Ala Gly Ser Ile Leu Cys Ser Ile His Leu | | |
| 200 | 205 | 210 |
| Ala Glu Gln Ser His Glu Val Glu Ser Lys Val Leu Ile Gly Glu | | |
| 215 | 220 | 225 |
| Thr Phe Phe Gln Pro Ser Pro Trp Arg Leu Ala Ser Ile Leu Leu | | |
| 230 | 235 | 240 |
| Gly Leu Leu Cys Gly Ala Leu Cys Gly Val Val Met Gly Met Ile | | |
| 245 | 250 | 255 |
| Ile Val Phe Phe Lys Ser Lys Gly Lys Ile Gln Ala Glu Leu Asp | | |
| 260 | 265 | 270 |
| Trp Arg Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys | | |
| 275 | 280 | 285 |
| His Ala Val Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys | | |
| 290 | 295 | 300 |
| Leu Cys Val Ser Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro | | |
| 305 | 310 | 315 |

Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val
320 325 330

Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val
335 340 345

Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp
350 355 360

Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn
365 370 375

Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr
380 385 390

Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr
395 400 405

Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe
410 415 420

Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys
425 430 435

Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr
440 445 450

Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp
455 460 465

Gly

<210> 268
<211> 2103
<212> DNA
<213> Homo sapiens

<400> 268
ccttcacagg actcttcatt gctgggtggc aatgatgtat cggccagatg 50
tggtgagggc tagaaaaaga gtttgtggg aaccctgggt tatcggcctc 100
gtcatcttca tatccctgtat tgtcctggca gtgtgcattg gactcactgt 150
tcattatgtg agatataatc aaaagaagac ctacaattac tatagcacat 200
tgtcattttac aactgacaaa ctatatgctg agtttggcag agaggcttct 250
aacaatttta cagaaatgag ccagagactt gaatcaatgg tgaaaaatgc 300
attttataaa tctccattaa ggaaagaatt tgtcaagtct caggttatca 350
agttcagtca acagaagcat ggagtgttgg ctcatatgct gttgatttgt 400
agatttcact ctactgagga tcctgaaact gtagataaaa ttgttcaact 450
tgttttacat gaaaagctgc aagatgctgt aggaccccct aaagtagatc 500

ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550
ctaaaccatt gctgcggAAC acgaagaagt aaaactctag gtcagagtct 600
caggatcgTT ggtgggacAG aagtagaAGA gggtaatGG ccctggcagg 650
ctagcTGca gtggatGGG agtcatcgCT gtggagcaAC cttaattaAT 700
gccacatggC ttgtgagtGC tgctcactGT tttacaACat ataagaACCC 750
tgccagatgg actgcttcCT ttggagtaAC aataAAACCT tcgAAAatGA 800
aacggggTct ccggagaATA attgtccATg AAAAataCAA acacCCatCA 850
catgactatG atatttctCT tgcagagCT tctagccCTg ttccCTacAC 900
aaatgcAGTA catagAGTT gtctccCTgA tgcatcCTat gagttcaAC 950
caggtgatgt gatgttGtG acaggattG gagcactgAA aaatgatGGt 1000
tacagtcaAA atcatctTCg acaagcacAG gtgactctCA tagacgctAC 1050
aacttgcaat gaacctcaAG cttacaatGA cgccataACT cctagaatGT 1100
tatgtgctgg ctccttagAA ggaaaaACAG atgcatGCC gggtgactCT 1150
ggaggaccAC tggtagttC agatgctAGA gatatctGG accttgctGG 1200
aatagtgAGC tggggagatG aatgtgcGAA acccaACAAG cctggtgTT 1250
atactagAGT tacggcCTG cggactGGA ttacttcaAA aactggtATC 1300
taagagacAA aagcctcatG gaacagataA cattttttt tgTTTTTgg 1350
gtgtggaggC catttttagA gatacagaAT tggagaAGAC ttgcaAAACa 1400
gctagattG actgatctCA ataaactGtt tgcttgatGC atgtatTTc 1450
ttcccagCTC tgTTCCGcac gtaagcatCC tgcttctGCC agatcaACTC 1500
tgtcatctGT gagcaatAGT tgAAactTTA tgtacatAGA gaaatAGATA 1550
atacaatATT acattacAGC ctgtattCAT ttgttctcta gaagtttGT 1600
cagaattttG acttggtagAC ataaatttGT aatgcataTA tacaatttGA 1650
agcactcCTT ttcttcAGtT cctcagCTC tctcatttCA gcaaataTCC 1700
atTTcaagg tgcagaACAA ggagtGAAAG aaaatataAG aagaaaaAAA 1750
tccccctacAT ttTattGGCA cagaaaAGTA tttagtGTTT ttcttagtGG 1800
aatattAGAA atgatcatAT tcattatGAA aggtcaAGCA aagacAGCAG 1850
aataccaATC acttcATcat TTAGGAAGTA tggGAactAA gttaAGGAAG 1900
tccagaaaAGA agccaAGATA tatccttatt ttcatttCCA aacaactACT 1950

atgataaaatg tgaagaagat tctgttttt tgtgacctat aataattata 2000
caaacttcat gcaatgtact tgttctaaggc aaattaaaggc aaatatttat 2050
ttaacattgt tactgaggat gtcaacatat aacaataaaa tataaattcac 2100
cca 2103

<210> 269
<211> 423
<212> PRT
<213> Homo sapiens

<400> 269
Met Met Tyr Arg Pro Asp Val Val Arg Ala Arg Lys Arg Val Cys
1 5 10 15
Trp Glu Pro Trp Val Ile Gly Leu Val Ile Phe Ile Ser Leu Ile
20 25 30
Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr
35 40 45
Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr
50 55 60
Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn
65 70 75
Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala
80 85 90
Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val
95 100 105
Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu
110 115 120
Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp
125 130 135
Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val
140 145 150
Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile
155 160 165
Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr
170 175 180
Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly
185 190 195
Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln
200 205 210
Trp Asp Gly Ser His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr
215 220 225

Trp Leu Val Ser Ala Ala His Cys Phe Thr Thr Tyr Lys Asn Pro
 230 235 240
 Ala Arg Trp Thr Ala Ser Phe Gly Val Thr Ile Lys Pro Ser Lys
 245 250 255
 Met Lys Arg Gly Leu Arg Arg Ile Ile Val His Glu Lys Tyr Lys
 260 265 270
 His Pro Ser His Asp Tyr Asp Ile Ser Leu Ala Glu Leu Ser Ser
 275 280 285
 Pro Val Pro Tyr Thr Asn Ala Val His Arg Val Cys Leu Pro Asp
 290 295 300
 Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val Met Phe Val Thr Gly
 305 310 315
 Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln Asn His Leu Arg
 320 325 330
 Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys Asn Glu Pro
 335 340 345
 Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys Ala Gly
 350 355 360
 Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly Gly
 365 370 375
 Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly
 380 385 390
 Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly
 395 400 405
 Val Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys
 410 415 420

Thr Gly Ile

<210> 270
 <211> 1170
 <212> DNA
 <213> Homo sapiens

<400> 270
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 aacctgacag cacagcctga gatcttgggg atccctcagc ctaacaccca 100
 cagacgtcag ctggtgatt cccgctgcat caaggcctac ccactgtctc 150
 catgctgggc tctccctgcc ttctgtggct cctggccgtg accttcttgg 200
 ttcccagagc tcagcccttg gccctcaag actttgaaga agaggaggca 250

10012407-1

gatgagactg agacggcgtg gccgccttg cggcgtgtcc cctgcgacta 300
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<210> 271

<211> 238

<212> PRT

<213> Homo sapiens

<400> 271

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Gly | Ser | Pro | Cys | Leu | Leu | Trp | Leu | Leu | Ala | Val | Thr | Phe |
| 1 | | | | | 5 | | | | 10 | | | | | 15 |
| Leu | Val | Pro | Arg | Ala | Gln | Pro | Leu | Ala | Pro | Gln | Asp | Phe | Glu | Glu |
| | | | | | | | 20 | | | 25 | | | | 30 |
| Glu | Glu | Ala | Asp | Glu | Thr | Glu | Thr | Ala | Trp | Pro | Pro | Leu | Pro | Ala |
| | | | | | | | | 35 | | | 40 | | | 45 |
| Val | Pro | Cys | Asp | Tyr | Asp | His | Cys | Arg | His | Leu | Gln | Val | Pro | Cys |
| | | | | | | | | 50 | | | 55 | | | 60 |
| Lys | Glu | Leu | Gln | Arg | Val | Gly | Pro | Ala | Ala | Cys | Leu | Cys | Pro | Gly |
| | | | | | | | | 65 | | | 70 | | | 75 |

Leu Ser Ser Pro Ala Gln Pro Pro Asp Pro Pro Arg Met Gly Glu
 80 85 90
 Val Arg Ile Ala Ala Glu Glu Gly Arg Ala Val Val His Trp Cys
 95 100 105
 Ala Pro Phe Ser Pro Val Leu His Tyr Trp Leu Leu Leu Trp Asp
 110 115 120
 Gly Ser Glu Ala Ala Gln Lys Gly Pro Pro Leu Asn Ala Thr Val
 125 130 135
 Arg Arg Ala Glu Leu Lys Gly Leu Lys Pro Gly Gly Ile Tyr Val
 140 145 150
 Val Cys Val Val Ala Ala Asn Glu Ala Gly Ala Ser Arg Val Pro
 155 160 165
 Gln Ala Gly Gly Glu Gly Leu Glu Gly Ala Asp Ile Pro Ala Phe
 170 175 180
 Gly Pro Cys Ser Arg Leu Ala Val Pro Pro Asn Pro Arg Thr Leu
 185 190 195
 Val His Ala Ala Val Gly Val Gly Thr Ala Leu Ala Leu Leu Ser
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 Cys Pro Arg Arg Ala Ala Ala Arg Ala Ala Gly Ala Leu
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 <212> DNA
 <213> Homo sapiens

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 tgcccttggg agtaggatgt ggtgaaagga tggggcttct cccttacggg 200
 gctcacaatg gccagagaag attccgtgaa gtgtctgcgc tgcctgctct 250
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<211> 305

<212> PRT

<213> Homo sapiens

<400> 273

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Arg | Glu | Asp | Ser | Val | Lys | Cys | Leu | Arg | Cys | Leu | Leu | Tyr |
| 1 | | | | | | | | | | | | | | 15 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Leu | Asn | Leu | Leu | Phe | Trp | Leu | Met | Ser | Ile | Ser | Val | Leu | Ala |
| | | | | | | | | | | | | | | 30 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ser | Ala | Trp | Met | Arg | Asp | Tyr | Leu | Asn | Asn | Val | Leu | Thr | Leu |
| | | | | | | | | | | | | | | 45 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Ala | Glu | Thr | Arg | Val | Glu | Glu | Ala | Val | Ile | Leu | Thr | Tyr | Phe |
| | | | | | | | | | | | | | | 60 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Val | Val | His | Pro | Val | Met | Ile | Ala | Val | Cys | Cys | Phe | Leu | Ile |
| | | | | | | | | | | | | | | 75 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Val | Gly | Met | Leu | Gly | Tyr | Cys | Gly | Thr | Val | Lys | Arg | Asn | Leu |
| | | | | | | | | | | | | | | 90 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Leu | Ala | Trp | Tyr | Phe | Gly | Ser | Leu | Leu | Val | Ile | Phe | Cys |
| | | | | | | | | | | | | | | 105 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Leu | Ala | Cys | Gly | Val | Trp | Thr | Tyr | Glu | Gln | Glu | Leu | Met |
| | | | | | | | | | | | | | | 120 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Val | Gln | Trp | Ser | Asp | Met | Val | Thr | Leu | Lys | Ala | Arg | Met |
| | | | | | | | | | | | | | | 135 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Asn | Tyr | Gly | Leu | Pro | Arg | Tyr | Arg | Trp | Leu | Thr | His | Ala | Trp |
| | | | | | | | | | | | | | | 150 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Phe | Phe | Gln | Arg | Glu | Phe | Lys | Cys | Cys | Gly | Val | Val | Tyr | Phe |
| | | | | | | | | | | | | | | 165 |
| | | | | | | | | | | | | | | |

Thr Asp Trp Leu Glu Met Thr Glu Met Asp Trp Pro Pro Asp Ser

| | | |
|---|-----|-----|
| 170 | 175 | 180 |
| Cys Cys Val Arg Glu Phe Pro Gly Cys Ser Lys Gln Ala His Gln | | |
| 185 | 190 | 195 |
| Glu Asp Leu Ser Asp Leu Tyr Gln Glu Gly Cys Gly Lys Lys Met | | |
| 200 | 205 | 210 |
| Tyr Ser Phe Leu Arg Gly Thr Lys Gln Leu Gln Val Leu Arg Phe | | |
| 215 | 220 | 225 |
| Leu Gly Ile Ser Ile Gly Val Thr Gln Ile Leu Ala Met Ile Leu | | |
| 230 | 235 | 240 |
| Thr Ile Thr Leu Leu Trp Ala Leu Tyr Tyr Asp Arg Arg Glu Pro | | |
| 245 | 250 | 255 |
| Gly Thr Asp Gln Met Met Ser Leu Lys Asn Asp Asn Ser Gln His | | |
| 260 | 265 | 270 |
| Leu Ser Cys Pro Ser Val Glu Leu Leu Lys Pro Ser Leu Ser Arg | | |
| 275 | 280 | 285 |
| Ile Phe Glu His Thr Ser Met Ala Asn Ser Phe Asn Thr His Phe | | |
| 290 | 295 | 300 |
| Glu Met Glu Glu Leu | | |
| 305 | | |

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<211> 2063
<212> DNA
<213> Homo sapiens

<400> 274
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2001-2012

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<210> 275

<211> 432

<212> PRT

<213> Homo sapiens

<400> 275

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Lys Val Gly Ile Pro Ile Ile Ala Leu Leu Ser Leu Ala Ser
35 40 45

Ile Ile Ile Val Val Leu Ile Lys Val Ile Leu Asp Lys Tyr
50 55 60

Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln
65 70 75

Leu Cys Asp Gly Glu Leu Asp Cys Pro Leu Gly Glu Asp Glu Glu
80 85 90

His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg
95 100 105

Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr
110 115 120

Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu
125 130 135

Ala Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu
140 145 150

Ile Gly Pro Asp Gln Asp Leu Asp Val Val Glu Ile Thr Glu Asn
155 160 165

Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser
170 175 180

Gly Ser Leu Val Ser Leu His Cys Leu Ala Cys Gly Lys Ser Leu
185 190 195

Lys Thr Pro Arg Val Val Gly Gly Glu Glu Ala Ser Val Asp Ser
200 205 210

Trp Pro Trp Gln Val Ser Ile Gln Tyr Asp Lys Gln His Val Cys
215 220 225

Gly Gly Ser Ile Leu Asp Pro His Trp Val Leu Thr Ala Ala His
230 235 240

Cys Phe Arg Lys His Thr Asp Val Phe Asn Trp Lys Val Arg Ala
245 250 255

Gly Ser Asp Lys Leu Gly Ser Phe Pro Ser Leu Ala Val Ala Lys
 260 265 270
 Ile Ile Ile Ile Glu Phe Asn Pro Met Tyr Pro Lys Asp Asn Asp
 275 280 285
 Ile Ala Leu Met Lys Leu Gln Phe Pro Leu Thr Phe Ser Gly Thr
 290 295 300
 Val Arg Pro Ile Cys Leu Pro Phe Phe Asp Glu Glu Leu Thr Pro
 305 310 315
 Ala Thr Pro Leu Trp Ile Ile Gly Trp Gly Phe Thr Lys Gln Asn
 320 325 330
 Gly Gly Lys Met Ser Asp Ile Leu Leu Gln Ala Ser Val Gln Val
 335 340 345
 Ile Asp Ser Thr Arg Cys Asn Ala Asp Asp Ala Tyr Gln Gly Glu
 350 355 360
 Val Thr Glu Lys Met Met Cys Ala Gly Ile Pro Glu Gly Gly Val
 365 370 375
 Asp Thr Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Tyr Gln Ser
 380 385 390
 Asp Gln Trp His Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys
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 <212> DNA
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caggggtaat ctgagcattc ttcaactcatt tacccctagct gacccttca 3050
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<210> 277

<211> 761

<212> PRT

<213> Homo sapiens

<400> 277

Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly
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Leu Phe Leu Phe Gln Leu Leu Gln Leu Leu Leu Pro Thr Thr Thr
 20 25 30

Ala Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr
 35 40 45

Ala Gly Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly
 50 55 60

Leu Gln Asp Phe Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr
 65 70 75

Leu Tyr Val Gly Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln
 80 85 90

Asp Pro Gly Val Pro Arg Leu Lys Asn Met Ile Pro Trp Pro Ala
 95 100 105

Ser Asp Arg Lys Lys Ser Glu Cys Ala Phe Lys Lys Lys Ser Asn
 110 115 120

Glu Thr Gln Cys Phe Asn Phe Ile Arg Val Leu Val Ser Tyr Asn
 125 130 135

Val Thr His Leu Tyr Thr Cys Gly Thr Phe Ala Phe Ser Pro Ala
 140 145 150

Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr Leu Leu Pro Ile Ser
 155 160 165

Glu Asp Lys Val Met Glu Gly Lys Gly Gln Ser Pro Phe Asp Pro
 170 175 180

Ala His Lys His Thr Ala Val Leu Val Asp Gly Met Leu Tyr Ser
 185 190 195

Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu Met Arg
 200 205 210

Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu Arg
 215 220 225

Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr
 230 235 240

Gln Val Val Tyr Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp
 245 250 255

Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys
 260 265 270

Asn Asp Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr
 275 280 285

Phe Leu Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro

| | | | |
|-------------------------------------|-------------------------|-----|-----|
| | 290 | 295 | 300 |
| Phe Asn Val Ile Arg His Ala Val Leu | Leu Pro Ala Asp Ser | Pro | |
| 305 | 310 | 315 | |
| Thr Ala Pro His Ile Tyr Ala Val Phe | Thr Ser Gln Trp Gln | Val | |
| 320 | 325 | 330 | |
| Gly Gly Thr Arg Ser Ser Ala Val Cys | Ala Phe Ser Leu Leu Asp | | |
| 335 | 340 | 345 | |
| Ile Glu Arg Val Phe Lys Gly Lys Tyr | Lys Glu Leu Asn Lys | Glu | |
| 350 | 355 | 360 | |
| Thr Ser Arg Trp Thr Thr Tyr Arg Gly | Pro Glu Thr Asn Pro | Arg | |
| 365 | 370 | 375 | |
| Pro Gly Ser Cys Ser Val Gly Pro Ser | Ser Asp Lys Ala Leu | Thr | |
| 380 | 385 | 390 | |
| Phe Met Lys Asp His Phe Leu Met Asp | Glu Gln Val Val Gly | Thr | |
| 395 | 400 | 405 | |
| Pro Leu Leu Val Lys Ser Gly Val Glu | Tyr Thr Arg Leu Ala | Val | |
| 410 | 415 | 420 | |
| Glu Thr Ala Gln Gly Leu Asp Gly His | Ser His Leu Val Met | Tyr | |
| 425 | 430 | 435 | |
| Leu Gly Thr Thr Thr Gly Ser Leu His | Lys Ala Val Val Ser | Gly | |
| 440 | 445 | 450 | |
| Asp Ser Ser Ala His Leu Val Glu Glu | Ile Gln Leu Phe Pro | Asp | |
| 455 | 460 | 465 | |
| Pro Glu Pro Val Arg Asn Leu Gln Leu | Ala Pro Thr Gln Gly | Ala | |
| 470 | 475 | 480 | |
| Val Phe Val Gly Phe Ser Gly Gly Val | Trp Arg Val Pro Arg | Ala | |
| 485 | 490 | 495 | |
| Asn Cys Ser Val Tyr Glu Ser Cys Val | Asp Cys Val Leu Ala | Arg | |
| 500 | 505 | 510 | |
| Asp Pro His Cys Ala Trp Asp Pro Glu | Ser Arg Thr Cys Cys | Leu | |
| 515 | 520 | 525 | |
| Leu Ser Ala Pro Asn Leu Asn Ser Trp | Lys Gln Asp Met Glu | Arg | |
| 530 | 535 | 540 | |
| Gly Asn Pro Glu Trp Ala Cys Ala Ser | Gly Pro Met Ser Arg | Ser | |
| 545 | 550 | 555 | |
| Leu Arg Pro Gln Ser Arg Pro Gln Ile | Ile Lys Glu Val Leu | Ala | |
| 560 | 565 | 570 | |
| Val Pro Asn Ser Ile Leu Glu Leu Pro | Cys Pro His Leu Ser | Ala | |
| 575 | 580 | 585 | |

Leu Ala Ser Tyr Tyr Trp Ser His Gly Pro Ala Ala Val Pro Glu
590 595 600

Ala Ser Ser Thr Val Tyr Asn Gly Ser Leu Leu Leu Ile Val Gln
605 610 615

Asp Gly Val Gly Gly Leu Tyr Gln Cys Trp Ala Thr Glu Asn Gly
620 625 630

Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val Asp Ser Gln Asp Gln
635 640 645

Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile Pro Arg Glu His
650 655 660

Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala Ala Leu Ala
665 670 675

Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr Val Leu
680 685 690

Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala Ser
695 700 705

Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
710 715 720

Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His
725 730 735

Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp
740 745 750

Ala Asp Asn Asn Cys Leu Gly Thr Glu Val Ala
755 760

<210> 278

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 278

ctgctggta aatctggcgt ggag 24

<210> 279

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 279
gtctggtcct ggctgtccac ccag 24

<210> 280
<211> 45
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.

<400> 280
catcttgtca tgtacaccttggg aaccaccaca gggtcgtcc acaag 45

<210> 281
<211> 2320
<212> DNA
<213> Homo sapiens

<400> 281
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atctacagta ggtggaagcc attatctact gatggaccgg gtttctcaga 200
ttcttcaaga tcacggtcat aatgtcacca tgcttaacca caaaagaggt 250
ccttttatgc cagattttaa aaaggaagaa aaatcatatc aagtttatcag 300
ttggcttgca cctgaagatc atcaaagaga atttaaaaag agttttgatt 350
tctttctgga agaaaacttta ggtggcagag gaaaatttga aaacttatta 400
aatgttctag aatacttggc gttgcagtgc agtcatttt taaatagaaa 450
ggatatcatg gattccttaa agaatgagaa cttcgacatg gtgatagttg 500
aaacttttga ctactgtcct ttccctgattt ctgagaagct tgggaagcca 550
tttggccca ttctttccac ttcatctggc tctttggaat ttgggctacc 600
aatccccttg tcttatgttc cagtattccg ttccctgctg actgatcaca 650
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atggaagtgt cagtgttctc attggcccaa agatgtccac ctggctgcaa 1100
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ccagcctcca tgtccagacc tagtcagcct ctctcactcc tgcccctact 2050
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ttctgttttgc ttctcccaca tattctcttc aatgctcagg aagcctgccc 2150
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tctctccccca acctcactaa 2320

<210> 282
<211> 523
<212> PRT
<213> Homo sapiens

<400> 282

| | | | |
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| 1 | 5 | 10 | 15 |
| Gly Val Leu Leu Ser Glu Ala Ala Lys Ile Leu Thr Ile Ser Thr | | | |
| 20 | 25 | | 30 |
| Val Gly Gly Ser His Tyr Leu Leu Met Asp Arg Val Ser Gln Ile | | | |
| 35 | 40 | | 45 |
| Leu Gln Asp His Gly His Asn Val Thr Met Leu Asn His Lys Arg | | | |
| 50 | 55 | | 60 |
| Gly Pro Phe Met Pro Asp Phe Lys Lys Glu Glu Lys Ser Tyr Gln | | | |
| 65 | 70 | | 75 |
| Val Ile Ser Trp Leu Ala Pro Glu Asp His Gln Arg Glu Phe Lys | | | |
| 80 | 85 | | 90 |
| Lys Ser Phe Asp Phe Phe Leu Glu Glu Thr Leu Gly Gly Arg Gly | | | |
| 95 | 100 | | 105 |
| Lys Phe Glu Asn Leu Leu Asn Val Leu Glu Tyr Leu Ala Leu Gln | | | |
| 110 | 115 | | 120 |
| Cys Ser His Phe Leu Asn Arg Lys Asp Ile Met Asp Ser Leu Lys | | | |
| 125 | 130 | | 135 |
| Asn Glu Asn Phe Asp Met Val Ile Val Glu Thr Phe Asp Tyr Cys | | | |
| 140 | 145 | | 150 |
| Pro Phe Leu Ile Ala Glu Lys Leu Gly Lys Pro Phe Val Ala Ile | | | |
| 155 | 160 | | 165 |
| Leu Ser Thr Ser Phe Gly Ser Leu Glu Phe Gly Leu Pro Ile Pro | | | |
| 170 | 175 | | 180 |
| Leu Ser Tyr Val Pro Val Phe Arg Ser Leu Leu Thr Asp His Met | | | |
| 185 | 190 | | 195 |
| Asp Phe Trp Gly Arg Val Lys Asn Phe Leu Met Phe Phe Ser Phe | | | |
| 200 | 205 | | 210 |
| Cys Arg Arg Gln Gln His Met Gln Ser Thr Phe Asp Asn Thr Ile | | | |
| 215 | 220 | | 225 |
| Lys Glu His Phe Thr Glu Gly Ser Arg Pro Val Leu Ser His Leu | | | |
| 230 | 235 | | 240 |
| Leu Leu Lys Ala Glu Leu Trp Phe Ile Asn Ser Asp Phe Ala Phe | | | |
| 245 | 250 | | 255 |
| Asp Phe Ala Arg Pro Leu Leu Pro Asn Thr Val Tyr Val Gly Gly | | | |

| 260 | 265 | 270 |
|---|-----|-----|
| Leu Met Glu Lys Pro Ile Lys Pro Val Pro Gln Asp Leu Glu Asn | | |
| 275 | 280 | 285 |
| Phe Ile Ala Lys Phe Gly Asp Ser Gly Phe Val Leu Val Thr Leu | | |
| 290 | 295 | 300 |
| Gly Ser Met Val Asn Thr Cys Gln Asn Pro Glu Ile Phe Lys Glu | | |
| 305 | 310 | 315 |
| Met Asn Asn Ala Phe Ala His Leu Pro Gln Gly Val Ile Trp Lys | | |
| 320 | 325 | 330 |
| Cys Gln Cys Ser His Trp Pro Lys Asp Val His Leu Ala Ala Asn | | |
| 335 | 340 | 345 |
| Val Lys Ile Val Asp Trp Leu Pro Gln Ser Asp Leu Leu Ala His | | |
| 350 | 355 | 360 |
| Pro Ser Ile Arg Leu Phe Val Thr His Gly Gly Gln Asn Ser Ile | | |
| 365 | 370 | 375 |
| Met Glu Ala Ile Gln His Gly Val Pro Met Val Gly Ile Pro Leu | | |
| 380 | 385 | 390 |
| Phe Gly Asp Gln Pro Glu Asn Met Val Arg Val Glu Ala Lys Lys | | |
| 395 | 400 | 405 |
| Phe Gly Val Ser Ile Gln Leu Lys Lys Leu Lys Ala Glu Thr Leu | | |
| 410 | 415 | 420 |
| Ala Leu Lys Met Lys Gln Ile Met Glu Asp Lys Arg Tyr Lys Ser | | |
| 425 | 430 | 435 |
| Ala Ala Val Ala Ala Ser Val Ile Leu Arg Ser His Pro Leu Ser | | |
| 440 | 445 | 450 |
| Pro Thr Gln Arg Leu Val Gly Trp Ile Asp His Val Leu Gln Thr | | |
| 455 | 460 | 465 |
| Gly Gly Ala Thr His Leu Lys Pro Tyr Val Phe Gln Gln Pro Trp | | |
| 470 | 475 | 480 |
| His Glu Gln Tyr Leu Phe Asp Val Phe Val Phe Leu Leu Gly Leu | | |
| 485 | 490 | 495 |
| Thr Leu Gly Thr Leu Trp Leu Cys Gly Lys Leu Leu Gly Met Ala | | |
| 500 | 505 | 510 |
| Val Trp Trp Leu Arg Gly Ala Arg Lys Val Lys Glu Thr | | |
| 515 | 520 | |

<210> 283

<211> 24

<212> DNA

<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 283
tgccttgct cacctacccc aagg 24

<210> 284
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 284
tcaggctggc ctccaaagag aggg 24

<210> 285
<211> 45
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.

<400> 285
cccaaagatg tccacctggc tgcaaatgtg aaaattgtgg actgg 45

<210> 286
<211> 2340
<212> DNA
<213> Homo sapiens

<400> 286
gggctgttga tttgtgggg attttgaaga gaggaggaat aggaggaagg 50
gttgtgggg ctgcctctgg catatgcaca cactcacaca ttctgtcaca 100
cccgtcacac acacatacca tgttctccat cccccaggt ccagccctca 150
gtgctgtccc atccagcagg gctaccctga agctctggct gcagccctcc 200
cgtccagtgg gcaggcgct tcattccctcc tttctctccc aaagcccaac 250
tgctgtcact gcatgctctg ccaaggagga gggactgca gtgacagcag 300
gagtaagagt gggaggcagg acagagctgg gacacaggtt tggagagggg 350
gttcagcgag cctagagagg gcagactatc agggtgccgg cggtgagaat 400
ccagggagag gagcggaaac agaagagggg cagaagaccg gggacttgt 450

gggtgcaga gcccctcagc catgttggga gccaagccac actggctacc 500
aggcccccta cacagtccccg ggctgccctt ggttctggtg cttctggccc 550
tggggcccg gtggcccaag gaggggtcag agcccgtcct gctggagggg 600
gagtgccctgg tggctgtga gcctggccga gctgctgcag gggggcccg 650
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caactagaga atgggtggta gtgagacact atagaattac taaggagaag 2250
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<210> 287

<211> 205

<212> PRT

<213> Homo sapiens

<400> 287

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Gly | Ala | Lys | Pro | His | Trp | Leu | Pro | Gly | Pro | Leu | His | Ser |
| 1 | | | | 5 | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Gly | Leu | Pro | Leu | Val | Leu | Val | Leu | Leu | Ala | Leu | Gly | Ala | Gly |
| | | | | 20 | | | | 25 | | | | 30 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ala | Gln | Glu | Gly | Ser | Glu | Pro | Val | Leu | Leu | Glu | Gly | Glu | Cys |
| | | | | 35 | | | | 40 | | | | 45 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Val | Cys | Glu | Pro | Gly | Arg | Ala | Ala | Ala | Gly | Gly | Pro | Gly |
| | | | 50 | | | | 55 | | | | 60 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ala | Ala | Leu | Gly | Glu | Ala | Pro | Pro | Gly | Arg | Val | Ala | Phe | Ala |
| | | | 65 | | | | 70 | | | | 75 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Val | Arg | Ser | His | His | His | Glu | Pro | Ala | Gly | Glu | Thr | Gly | Asn |
| | | | | 80 | | | 85 | | | | 90 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Thr | Ser | Gly | Ala | Ile | Tyr | Phe | Asp | Gln | Val | Leu | Val | Asn | Glu |
| | | | | 95 | | | | 100 | | | | 105 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Gly | Phe | Asp | Arg | Ala | Ser | Gly | Ser | Phe | Val | Ala | Pro | Val |
| | | | 110 | | | | 115 | | | | 120 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gly | Val | Tyr | Ser | Phe | Arg | Phe | His | Val | Val | Lys | Val | Tyr | Asn |
| | | | 125 | | | | 130 | | | | 135 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gln | Thr | Val | Gln | Val | Ser | Leu | Met | Leu | Asn | Thr | Trp | Pro | Val |
| | | | 140 | | | | 145 | | | | 150 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ser | Ala | Phe | Ala | Asn | Asp | Pro | Asp | Val | Thr | Arg | Glu | Ala | Ala |
| | | | 155 | | | | 160 | | | | 165 | | | |

Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly Asp Arg Val Ser

PROTEIN-DNA

170 175 180

Leu Arg Leu Arg Arg Gly Asn Leu Leu Gly Gly Trp Lys Tyr Ser
185 190 195

Ser Phe Ser Gly Phe Leu Ile Phe Pro Leu
200 205

<210> 288

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 288

aggcagccac cagctctgtg ctac 24

<210> 289

<211> 27

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-27

<223> Synthetic construct.

<400> 289

cagagaggga agatgaggaa gccagag 27

<210> 290

<211> 42

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-42

<223> Synthetic construct.

<400> 290

ctgtgctact gcccttggac cctggggacc gagtgtctct gc 42

<210> 291

<211> 1570

<212> DNA

<213> Homo sapiens

<400> 291

gctgttttc tcgcgccacc actggccgcc ggccgcagct ccaggtgtcc 50

tagccgcccc gcctcgacgc cgtcccgaaa cccctgtgct ctgcgcgaag 100

ccctggcccc gggggccccc gcatggcca ggggcgcggg gtgaagcggc 150

ttcccgcccc gccgtgactg ggcgggcttc agccatgaag accctcatag 200
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<210> 292
<211> 388
<212> PRT
<213> Homo sapiens

<400> 292

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Thr | Leu | Ile | Ala | Ala | Tyr | Ser | Gly | Val | Leu | Arg | Gly | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |
| Arg | Gln | Ala | Glu | Ala | Asp | Arg | Ser | Gln | Arg | Ser | His | Gly | Gly | Pro |
| | | | | 20 | | | | | 25 | | | | | 30 |
| Ala | Leu | Ser | Arg | Glu | Gly | Ser | Gly | Arg | Trp | Gly | Thr | Gly | Ser | Ser |
| | | | | 35 | | | | | 40 | | | | | 45 |
| Ile | Leu | Ser | Ala | Leu | Gln | Asp | Leu | Phe | Ser | Val | Thr | Trp | Leu | Asn |
| | | | | 50 | | | | | 55 | | | | | 60 |
| Arg | Ser | Lys | Val | Glu | Lys | Gln | Leu | Gln | Val | Ile | Ser | Val | Leu | Gln |
| | | | | 65 | | | | | 70 | | | | | 75 |
| Trp | Val | Leu | Ser | Phe | Leu | Val | Leu | Gly | Val | Ala | Cys | Ser | Ala | Ile |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Leu | Met | Tyr | Ile | Phe | Cys | Thr | Asp | Cys | Trp | Leu | Ile | Ala | Val | Leu |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Tyr | Phe | Thr | Trp | Leu | Val | Phe | Asp | Trp | Asn | Thr | Pro | Lys | Lys | Gly |
| | | | | 110 | | | | | 115 | | | | | 120 |
| Gly | Arg | Arg | Ser | Gln | Trp | Val | Arg | Asn | Trp | Ala | Val | Trp | Arg | Tyr |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Phe | Arg | Asp | Tyr | Phe | Pro | Ile | Gln | Leu | Val | Lys | Thr | His | Asn | Leu |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Leu | Thr | Thr | Arg | Asn | Tyr | Ile | Phe | Gly | Tyr | His | Pro | His | Gly | Ile |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Met | Gly | Leu | Gly | Ala | Phe | Cys | Asn | Phe | Ser | Thr | Glu | Ala | Thr | Glu |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Val | Ser | Lys | Lys | Phe | Pro | Gly | Ile | Arg | Pro | Tyr | Leu | Ala | Thr | Leu |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Ala | Gly | Asn | Phe | Arg | Met | Pro | Val | Leu | Arg | Glu | Tyr | Leu | Met | Ser |
| | | | | 200 | | | | | 205 | | | | | 210 |
| Gly | Gly | Ile | Cys | Pro | Val | Ser | Arg | Asp | Thr | Ile | Asp | Tyr | Leu | Leu |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Ser | Lys | Asn | Gly | Ser | Gly | Asn | Ala | Ile | Ile | Ile | Val | Val | Gly | Gly |
| | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Ala | Glu | Ser | Leu | Ser | Ser | Met | Pro | Gly | Lys | Asn | Ala | Val | Thr |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Leu | Arg | Asn | Arg | Lys | Gly | Phe | Val | Lys | Leu | Ala | Leu | Arg | His | Gly |

260 265 270

Ala Asp Leu Val Pro Ile Tyr Ser Phe Gly Glu Asn Glu Val Tyr
275 280 285

Lys Gln Val Ile Phe Glu Glu Gly Ser Trp Gly Arg Trp Val Gln
290 295 300

Lys Lys Phe Gln Lys Tyr Ile Gly Phe Ala Pro Cys Ile Phe His
305 310 315

Gly Arg Gly Leu Phe Ser Ser Asp Thr Trp Gly Leu Val Pro Tyr
320 325 330

Ser Lys Pro Ile Thr Thr Val Val Gly Glu Pro Ile Thr Ile Pro
335 340 345

Lys Leu Glu His Pro Thr Gln Gln Asp Ile Asp Leu Tyr His Thr
350 355 360

Met Tyr Met Glu Ala Leu Val Lys Leu Phe Asp Lys His Lys Thr
365 370 375

Lys Phe Gly Leu Pro Glu Thr Glu Val Leu Glu Val Asn
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<210> 293
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 293
gctgacctgg ttcccatctta ctcc 24

<210> 294
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 294
cccacagaca cccatgacac ttcc 24

<210> 295
<211> 50
<212> DNA
<213> Artificial

<220>

<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.

<400> 295
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<210> 296
<211> 3060
<212> DNA
<213> Homo sapiens

<400> 296
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gcggctgcag gcttgtccag ccggaagccc tgagggcagc tgttccact 200
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cacccgctcc tgagcagcgc catgggcctg ctggcctcc tgaagaccca 300
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cagctctacc gccgcctcaa ctgcccgcctc gcctactcac tctggagcca 450
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cgaccaggc cacggtagag cgctttggga aggagcacgc agtcatcatc 550
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accctgtctc 3060

<210> 297
<211> 368
<212> PRT
<213> Homo sapiens

<400> 297

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Leu | Leu | Ala | Phe | Leu | Lys | Thr | Gln | Phe | Val | Leu | His | Leu |
| 1 | | | | | 5 | | | | 10 | | | | 15 | |
| Leu | Val | Gly | Phe | Val | Phe | Val | Val | Ser | Gly | Leu | Val | Ile | Asn | Phe |
| | | | | | 20 | | | | 25 | | | | 30 | |
| Val | Gln | Leu | Cys | Thr | Leu | Ala | Leu | Trp | Pro | Val | Ser | Lys | Gln | Leu |
| | | | | | 35 | | | | 40 | | | | 45 | |
| Tyr | Arg | Arg | Leu | Asn | Cys | Arg | Leu | Ala | Tyr | Ser | Leu | Trp | Ser | Gln |
| | | | | | 50 | | | | 55 | | | | 60 | |
| Leu | Val | Met | Leu | Leu | Glu | Trp | Trp | Ser | Cys | Thr | Glu | Cys | Thr | Leu |
| | | | | | 65 | | | | 70 | | | | 75 | |
| Phe | Thr | Asp | Gln | Ala | Thr | Val | Glu | Arg | Phe | Gly | Lys | Glu | His | Ala |
| | | | | | 80 | | | | 85 | | | | 90 | |
| Val | Ile | Ile | Leu | Asn | His | Asn | Phe | Glu | Ile | Asp | Phe | Leu | Cys | Gly |
| | | | | | 95 | | | | 100 | | | | 105 | |
| Trp | Thr | Met | Cys | Glu | Arg | Phe | Gly | Val | Leu | Gly | Ser | Ser | Lys | Val |
| | | | | | 110 | | | | 115 | | | | 120 | |
| Leu | Ala | Lys | Lys | Glu | Leu | Leu | Tyr | Val | Pro | Leu | Ile | Gly | Trp | Thr |
| | | | | | 125 | | | | 130 | | | | 135 | |
| Trp | Tyr | Phe | Leu | Glu | Ile | Val | Phe | Cys | Lys | Arg | Lys | Trp | Glu | Glu |
| | | | | | 140 | | | | 145 | | | | 150 | |
| Asp | Arg | Asp | Thr | Val | Val | Glu | Gly | Leu | Arg | Arg | Leu | Ser | Asp | Tyr |
| | | | | | 155 | | | | 160 | | | | 165 | |

Pro Glu Tyr Met Trp Phe Leu Leu Tyr Cys Glu Gly Thr Arg Phe
 170 175 180
 Thr Glu Thr Lys His Arg Val Ser Met Glu Val Ala Ala Ala Lys
 185 190 195
 Gly Leu Pro Val Leu Lys Tyr His Leu Leu Pro Arg Thr Lys Gly
 200 205 210
 Phe Thr Thr Ala Val Lys Cys Leu Arg Gly Thr Val Ala Ala Val
 215 220 225
 Tyr Asp Val Thr Leu Asn Phe Arg Gly Asn Lys Asn Pro Ser Leu
 230 235 240
 Leu Gly Ile Leu Tyr Gly Lys Lys Tyr Glu Ala Asp Met Cys Val
 245 250 255
 Arg Arg Phe Pro Leu Glu Asp Ile Pro Leu Asp Glu Lys Glu Ala
 260 265 270
 Ala Gln Trp Leu His Lys Leu Tyr Gln Glu Lys Asp Ala Leu Gln
 275 280 285
 Glu Ile Tyr Asn Gln Lys Gly Met Phe Pro Gly Glu Gln Phe Lys
 290 295 300
 Pro Ala Arg Arg Pro Trp Thr Leu Leu Asn Phe Leu Ser Trp Ala
 305 310 315
 Thr Ile Leu Leu Ser Pro Leu Phe Ser Phe Val Leu Gly Val Phe
 320 325 330
 Ala Ser Gly Ser Pro Leu Leu Ile Leu Thr Phe Leu Gly Phe Val
 335 340 345
 Gly Ala Ala Ser Phe Gly Val Arg Arg Leu Ile Gly Glu Ser Leu
 350 355 360
 Glu Pro Gly Arg Trp Arg Leu Gln
 365

<210> 298

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 298

tttcctctgt gggtgacca tgtg 24

<210> 299

<211> 21

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-21

<223> Synthetic construct.

<400> 299
gccaccccca tgctaacgcg g 21

<210> 300

<211> 45

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-45

<223> Synthetic construct.

<400> 300
ccaaggcctt cgctaagaag gagctgctct acgtgccctt catcg 45

<210> 301

<211> 1334

<212> DNA

<213> Homo sapiens

<400> 301
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tcagttgtc ttgtggggtt ggtggcaggc aggccggctt acgcctgata 200
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gtcccgacta cttgggaggc tgaagcaaga gaatcgctt aacctggag 1250
gcggaggtt cagtgagccg agatcaggcc actgtattcc aaccagggtg 1300
acagagttag actctatgtc caaaaaaaaaaaaa 1334

<210> 302

<211> 143

<212> PRT

<213> Homo sapiens

<400> 302

Met His His Ser Leu Gln Cys Pro Gly Ala Ala Thr Arg His Ile
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His Leu Cys Val Cys Phe Ser Phe Ala Leu Ala Leu Gly His Phe
20 25 30

Leu Leu Ile Ser Leu Val Gly Lys Gly Leu Ser Leu Ser Cys Gly
35 40 45

Val Gly Gly Arg Gln Ala Gly Leu Arg Leu Ile Arg Pro Trp Val
50 55 60

Arg Arg Glu Gly Lys Ile Asn Phe Tyr Thr Asn Gly Asp Ser Trp
65 70 75

Gly Leu Arg Pro Ala Ser Ser Val Lys Phe Leu Gly Ser Ala Tyr
80 85 90

Thr Phe Phe Ser Leu Thr Trp His Thr Leu Leu Lys Ala Ser Gln
95 100 105

Gly Phe Ser Leu Phe Leu Gly Ser Lys Tyr Leu Glu Leu Gln Glu
110 115 120

Pro Ser Trp Ser Gly Pro Cys Pro Pro Gly Gln Leu His Cys Thr
125 130 135

Cys Gly Val Leu Leu Ser Phe Leu

<210> 303
<211> 1768
<212> DNA
<213> Homo sapiens

<400> 303
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tttttcagca actaaaaaaag ccacaggagt tgaactgcta ggattctgac 150
tatgtgtgg tggcttagtgc tcctactcct acctacatta aaatctgttt 200
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gagaattact tgaacctggg aggtgaagga ggctgagaca ggagaatcac 1700
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<210> 304

<211> 109

<212> PRT

<213> Homo sapiens

<400> 304

Met Leu Trp Trp Leu Val Leu Leu Leu Pro Thr Leu Lys Ser
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Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu
20 25 30

Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly
35 40 45

Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly
50 55 60

Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro
65 70 75

Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala
80 85 90

Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly
95 100 105

Arg Arg Arg Asp

<210> 305

<211> 989

<212> DNA

<213> Homo sapiens

<400> 305

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<210> 306

<211> 262

<212> PRT

<213> Homo sapiens

<400> 306

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Gln | Pro | Val | Pro | Arg | Leu | Ser | Val | Pro | Ala | Ala | Leu | Ala |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gly | Ser | Ala | Ala | Leu | Gly | Ala | Ala | Phe | Ala | Thr | Gly | Leu | Phe |
| | | | | | 20 | | | | 25 | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gly | Arg | Arg | Cys | Pro | Pro | Trp | Arg | Gly | Arg | Arg | Glu | Gln | Cys |
| | | | | 35 | | | | 40 | | | | | 45 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Pro | Pro | Glu | Asp | Ser | Arg | Leu | Trp | Gln | Tyr | Leu | Leu | Ser |
| | | | | 50 | | | | 55 | | | | 60 | | |

Arg Ser Met Arg Glu His Pro Ala Leu Arg Ser Leu Arg Leu Leu
 65 70 75
 Thr Leu Glu Gln Pro Gln Gly Asp Ser Met Met Thr Cys Glu Gln
 80 85 90
 Ala Gln Leu Leu Ala Asn Leu Ala Arg Leu Ile Gln Ala Lys Lys
 95 100 105
 Ala Leu Asp Leu Gly Thr Phe Thr Gly Tyr Ser Ala Leu Ala Leu
 110 115 120
 Ala Leu Ala Leu Pro Ala Asp Gly Arg Val Val Thr Cys Glu Val
 125 130 135
 Asp Ala Gln Pro Pro Glu Leu Gly Arg Pro Leu Trp Arg Gln Ala
 140 145 150
 Glu Ala Glu His Lys Ile Asp Leu Arg Leu Lys Pro Ala Leu Glu
 155 160 165
 Thr Leu Asp Glu Leu Leu Ala Ala Gly Glu Ala Gly Thr Phe Asp
 170 175 180
 Val Ala Val Val Asp Ala Asp Lys Glu Asn Cys Ser Ala Tyr Tyr
 185 190 195
 Glu Arg Cys Leu Gln Leu Leu Arg Pro Gly Gly Ile Leu Ala Val
 200 205 210
 Leu Arg Val Leu Trp Arg Gly Lys Val Leu Gln Pro Pro Lys Gly
 215 220 225
 Asp Val Ala Ala Glu Cys Val Arg Asn Leu Asn Glu Arg Ile Arg
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 Leu Thr Leu Ala Phe Lys Ile
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 <211> 2272
 <212> DNA
 <213> Homo sapiens

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 gcacacacga aacagcattc ctggaccca aggacctgtt cccctacgac 250

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<211> 671
<212> PRT
<213> Homo sapiens

<400> 308
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35 40 45
Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro
50 55 60
Tyr Asp Lys Cys Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys
65 70 75
Gly Phe Asn Glu Gly Leu Trp Glu Ile Gln Asn Asn Pro His Ala
80 85 90
Ser Tyr Ser Ala Pro Pro Pro Val Ser Ser Ser Asp Ser Glu Ala
95 100 105
Pro Glu Ala Asn Pro Ala Asp Gly Ser Asp Ala Asp Glu Asp Asp
110 115 120
Glu Asp Arg Gly Val Met Ala Val Thr Ala Val Thr Ala Thr Ala
125 130 135
Ala Ser Asp Arg Met Glu Ser Asp Ser Asp Ser Asp Lys Ser Ser

| 140 | 145 | 150 |
|---|-----|-----|
| Asp Asn Ser Gly Leu Lys Arg Lys Thr Pro Ala Leu Lys Met Ser | | |
| 155 | 160 | 165 |
| Val Ser Lys Arg Ala Arg Lys Ala Ser Ser Asp Leu Asp Gln Ala | | |
| 170 | 175 | 180 |
| Ser Val Ser Pro Ser Glu Glu Glu Asn Ser Glu Ser Ser Ser Glu | | |
| 185 | 190 | 195 |
| Ser Glu Lys Thr Ser Asp Gln Asp Phe Thr Pro Glu Lys Lys Ala | | |
| 200 | 205 | 210 |
| Ala Val Arg Ala Pro Arg Arg Gly Pro Leu Gly Gly Arg Lys Lys | | |
| 215 | 220 | 225 |
| Lys Lys Ala Pro Ser Ala Ser Asp Ser Asp Ser Lys Ala Asp Ser | | |
| 230 | 235 | 240 |
| Asp Gly Ala Lys Pro Glu Pro Val Ala Met Ala Arg Ser Ala Ser | | |
| 245 | 250 | 255 |
| Ser Ser Ser Ser Ser Ser Ser Ser Asp Ser Asp Val Ser Val | | |
| 260 | 265 | 270 |
| Lys Lys Pro Pro Arg Gly Arg Lys Pro Ala Glu Lys Pro Leu Pro | | |
| 275 | 280 | 285 |
| Lys Pro Arg Gly Arg Lys Pro Lys Pro Glu Arg Pro Pro Ser Ser | | |
| 290 | 295 | 300 |
| Ser Ser Ser Asp Ser Asp Ser Asp Glu Val Asp Arg Ile Ser Glu | | |
| 305 | 310 | 315 |
| Trp Lys Arg Arg Asp Glu Ala Arg Arg Arg Glu Leu Glu Ala Arg | | |
| 320 | 325 | 330 |
| Arg Arg Arg Glu Gln Glu Glu Glu Leu Arg Arg Leu Arg Glu Gln | | |
| 335 | 340 | 345 |
| Glu Lys Glu Glu Lys Glu Arg Arg Glu Arg Ala Asp Arg Gly | | |
| 350 | 355 | 360 |
| Glu Ala Glu Arg Gly Ser Gly Gly Ser Ser Gly Asp Glu Leu Arg | | |
| 365 | 370 | 375 |
| Glu Asp Asp Glu Pro Val Lys Lys Arg Gly Arg Lys Gly Arg Gly | | |
| 380 | 385 | 390 |
| Arg Gly Pro Pro Ser Ser Ser Asp Ser Glu Pro Glu Ala Glu Leu | | |
| 395 | 400 | 405 |
| Glu Arg Glu Ala Lys Lys Ser Ala Lys Lys Pro Gln Ser Ser Ser | | |
| 410 | 415 | 420 |
| Thr Glu Pro Ala Arg Lys Pro Gly Gln Lys Glu Lys Arg Val Arg | | |
| 425 | 430 | 435 |

Pro Glu Glu Lys Gln Gln Ala Lys Pro Val Lys Val Glu Arg Thr
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 Arg Lys Arg Ser Glu Gly Phe Ser Met Asp Arg Lys Val Glu Lys
 455 460 465
 Lys Lys Glu Pro Ser Val Glu Glu Lys Leu Gln Lys Leu His Ser
 470 475 480
 Glu Ile Lys Phe Ala Leu Lys Val Asp Ser Pro Asp Val Lys Arg
 485 490 495
 Cys Leu Asn Ala Leu Glu Glu Leu Gly Thr Leu Gln Val Thr Ser
 500 505 510
 Gln Ile Leu Gln Lys Asn Thr Asp Val Val Ala Thr Leu Lys Lys
 515 520 525
 Ile Arg Arg Tyr Lys Ala Asn Lys Asp Val Met Glu Lys Ala Ala
 530 535 540
 Glu Val Tyr Thr Arg Leu Lys Ser Arg Val Leu Gly Pro Lys Ile
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 Ala Glu Glu Lys Leu Ala Gly Glu Glu Leu Ala Gly Glu Glu Ala
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 Pro Val Asn Gly Glu Ala Thr Ser Gln Lys Gly Glu Ser Ala Glu
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 Asp Lys Glu His Glu Glu Gly Arg Asp Ser Glu Glu Gly Pro Arg
 620 625 630
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<210> 309

<211> 3871

<212> DNA

<213> Homo sapiens

<400> 309

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卷之三

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<210> 310

<211> 777

<212> PRT

<213> Homo sapiens

<400> 310

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Ala | Asn | Lys | Asp | Glu | Arg | Leu | Lys | Ala | Arg | Ser | Gln | Asp |
| 1 | | | | 5 | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | His | Leu | Phe | Pro | Ala | Leu | Met | Met | Leu | Ser | Met | Thr | Met | Leu |
| | | | | | | | 20 | | 25 | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Leu | Pro | Val | Thr | Gly | Thr | Leu | Lys | Gln | Asn | Ile | Pro | Arg | Leu |
| | | | | | | | | 35 | | 40 | | | 45 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Lys | Leu | Thr | Tyr | Lys | Asp | Leu | Leu | Ser | Asn | Ser | Cys | Ile | Pro | |
| | | | | | | 50 | | 55 | | | 60 | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Leu | Gly | Ser | Ser | Glu | Gly | Leu | Asp | Phe | Gln | Thr | Leu | Leu | Leu |
| | | | | | | | 65 | | 70 | | | 75 | | |

Asp Glu Glu Arg Gly Arg Leu Leu Leu Gly Ala Lys Asp His Ile

| 80 | 85 | 90 |
|-------------------------|-----------------|-----------------------------|
| Phe Leu Leu Ser | | |
| Leu Val Asp | | |
| Leu Asn Lys | | |
| Asn Phe Lys Lys | | |
| Ile 95 | 100 | 105 |
| Tyr Trp Pro Ala Ala | Lys Glu Arg | Val Glu Leu Cys |
| 110 | 115 | 120 |
| Gly Lys Asp Ala Asn Thr | Glu Cys Ala | Asn Phe Ile Arg |
| 125 | 130 | 135 |
| Gln Pro Tyr Asn Lys | Thr His Ile Tyr | Val Cys Gly Thr Gly |
| 140 | 145 | 150 |
| Phe His Pro Ile Cys | Gly Tyr Ile Asp | Leu Gly Val Tyr Lys |
| 155 | 160 | 165 |
| Asp Ile Ile Phe | Lys Leu Asp | Thr His Asn Leu Glu Ser |
| 170 | 175 | 180 |
| Leu Lys Cys Pro | Phe Asp Pro Gln | Gln Pro Phe Ala Ser Val |
| 185 | 190 | 195 |
| Thr Asp Glu Tyr | Leu Tyr Ser Gly | Thr Ala Ser Asp Phe Leu |
| 200 | 205 | 210 |
| Lys Asp Thr Ala | Phe Thr Arg Ser | Leu Gly Pro Thr His Asp |
| 215 | 220 | 225 |
| His Tyr Ile Arg | Thr Asp Ile Ser | Glu His Tyr Trp Leu Asn |
| 230 | 235 | 240 |
| Ala Lys Phe Ile | Gly Thr Phe | Phe Ile Pro Asp Thr Tyr Asn |
| 245 | 250 | 255 |
| Asp Asp Asp Lys | Ile Tyr Phe | Phe Arg Glu Ser Ser Gln |
| 260 | 265 | 270 |
| Gly Ser Thr Ser | Asp Lys Thr | Ile Leu Ser Arg Val Gly |
| 275 | 280 | 285 |
| Cys Lys Asn Asp | Val Gly | Gly Gln Arg Ser Leu Ile Asn |
| 290 | 295 | 300 |
| Thr Thr Phe Leu | Lys Ala Arg | Leu Ile Cys Ser Ile Pro |
| 305 | 310 | 315 |
| Asp Gly Ala Asp | Thr Tyr Phe | Asp Glu Leu Gln Asp Ile |
| 320 | 325 | 330 |
| Leu Pro Thr Arg | Asp Glu Arg | Asn Pro Val Val Tyr Gly |
| 335 | 340 | 345 |
| Thr Thr Thr Ser | Ser Ile Phe | Lys Gly Ser Ala Val Cys |
| 350 | 355 | 360 |
| Ser Met Ala Asp | Ile Arg Ala | Val Phe Asn Gly Pro Tyr |
| 365 | 370 | 375 |

Lys Glu Ser Ala Asp His Arg Trp Val Gln Tyr Asp Gly Arg Ile
 380 385 390
 Pro Tyr Pro Arg Pro Gly Thr Cys Pro Ser Lys Thr Tyr Asp Pro
 395 400 405
 Leu Ile Lys Ser Thr Arg Asp Phe Pro Asp Asp Val Ile Ser Phe
 410 415 420
 Ile Lys Arg His Ser Val Met Tyr Lys Ser Val Tyr Pro Val Ala
 425 430 435
 Gly Gly Pro Thr Phe Lys Arg Ile Asn Val Asp Tyr Arg Leu Thr
 440 445 450
 Gln Ile Val Val Asp His Val Ile Ala Glu Asp Gly Gln Tyr Asp
 455 460 465
 Val Met Phe Leu Gly Thr Asp Ile Gly Thr Val Leu Lys Val Val
 470 475 480
 Ser Ile Ser Lys Glu Lys Trp Asn Met Glu Glu Val Val Leu Glu
 485 490 495
 Glu Leu Gln Ile Phe Lys His Ser Ser Ile Ile Leu Asn Met Glu
 500 505 510
 Leu Ser Leu Lys Gln Gln Leu Tyr Ile Gly Ser Arg Asp Gly
 515 520 525
 Leu Val Gln Leu Ser Leu His Arg Cys Asp Thr Tyr Gly Lys Ala
 530 535 540
 Cys Ala Asp Cys Cys Leu Ala Arg Asp Pro Tyr Cys Ala Trp Asp
 545 550 555
 Gly Asn Ala Cys Ser Arg Tyr Ala Pro Thr Ser Lys Arg Arg Ala
 560 565 570
 Arg Arg Gln Asp Val Lys Tyr Gly Asp Pro Ile Thr Gln Cys Trp
 575 580 585
 Asp Ile Glu Asp Ser Ile Ser His Glu Thr Ala Asp Glu Lys Val
 590 595 600
 Ile Phe Gly Ile Glu Phe Asn Ser Thr Phe Leu Glu Cys Ile Pro
 605 610 615
 Lys Ser Gln Gln Ala Thr Ile Lys Trp Tyr Ile Gln Arg Ser Gly
 620 625 630
 Asp Glu His Arg Glu Glu Leu Lys Pro Asp Glu Arg Ile Ile Lys
 635 640 645
 Thr Glu Tyr Gly Leu Leu Ile Arg Ser Leu Gln Lys Lys Asp Ser
 650 655 660
 Gly Met Tyr Tyr Cys Lys Ala Gln Glu His Thr Phe Ile His Thr

665 670 675
Ile Val Lys Leu Thr Leu Asn Val Ile Glu Asn Glu Gln Met Glu
680 685 690
Asn Thr Gln Arg Ala Glu His Glu Glu Gly Gln Val Lys Asp Leu
695 700 705
Leu Ala Glu Ser Arg Leu Arg Tyr Lys Asp Tyr Ile Gln Ile Leu
710 715 720
Ser Ser Pro Asn Phe Ser Leu Asp Gln Tyr Cys Glu Gln Met Trp
725 730 735
His Arg Glu Lys Arg Arg Gln Arg Asn Lys Gly Gly Pro Lys Trp
740 745 750
Lys His Met Gln Glu Met Lys Lys Arg Asn Arg Arg His His
755 760 765
Arg Asp Leu Asp Glu Leu Pro Arg Ala Val Ala Thr
770 775

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<211> 25
<212> DNA
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<222> 1-25
<223> Synthetic construct.

<400> 311
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<222> 1-24
<223> Synthetic construct.

<400> 312
gcttggacat gtaccaggcc gtgg 24

<210> 313
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<222> 1-45
<223> Synthetic construct.

<400> 313
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<210> 314
<211> 3934
<212> DNA
<213> Homo sapiens

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<210> 315

<211> 370

<212> PRT

<213> Homo sapiens

<400> 315

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| 1 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 15 |

Val Phe Pro Pro Thr Pro Val Leu Cys Leu Pro Asn Gln Val Leu
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 Gln Arg Leu Glu Gln Arg Arg Gln Gln Ala Ser Glu Arg Glu Ala
 35 40 45
 Pro Ser Ile Glu Gln Arg Leu Gln Glu Val Arg Glu Ser Ile Arg
 50 55 60
 Arg Ala Gln Val Ser Gln Val Lys Gly Ala Ala Arg Leu Ala Leu
 65 70 75
 Leu Gln Gly Ala Gly Leu Asp Val Glu Arg Trp Leu Lys Pro Ala
 80 85 90
 Met Thr Gln Ala Gln Asp Glu Val Glu Gln Glu Arg Arg Leu Ser
 95 100 105
 Glu Ala Arg Leu Ser Gln Arg Asp Leu Ser Pro Thr Ala Glu Asp
 110 115 120
 Ala Glu Leu Ser Asp Phe Glu Glu Cys Glu Glu Thr Gly Glu Leu
 125 130 135
 Phe Glu Glu Pro Ala Pro Gln Ala Leu Ala Thr Arg Ala Leu Pro
 140 145 150
 Cys Pro Ala His Val Val Phe Arg Tyr Gln Ala Gly Arg Glu Asp
 155 160 165
 Glu Leu Thr Ile Thr Glu Gly Glu Trp Leu Glu Val Ile Glu Glu
 170 175 180
 Gly Asp Ala Asp Glu Trp Val Lys Ala Arg Asn Gln His Gly Glu
 185 190 195
 Val Gly Phe Val Pro Glu Arg Tyr Leu Asn Phe Pro Asp Leu Ser
 200 205 210
 Leu Pro Glu Ser Ser Gln Asp Ser Asp Asn Pro Cys Gly Ala Glu
 215 220 225
 Pro Thr Ala Phe Leu Ala Gln Ala Leu Tyr Ser Tyr Thr Gly Gln
 230 235 240
 Ser Ala Glu Glu Leu Ser Phe Pro Glu Gly Ala Leu Ile Arg Leu
 245 250 255
 Leu Pro Arg Ala Gln Asp Gly Val Asp Asp Gly Phe Trp Arg Gly
 260 265 270
 Glu Phe Gly Gly Arg Val Gly Val Phe Pro Ser Leu Leu Val Glu
 275 280 285
 Glu Leu Leu Gly Pro Pro Gly Pro Pro Glu Leu Ser Asp Pro Glu
 290 295 300
 Gln Met Leu Pro Ser Pro Ser Pro Ser Phe Ser Pro Pro Ala

305 310 315
Pro Thr Ser Val Leu Asp Gly Pro Pro Ala Pro Val Leu Pro Gly
320 325 330
Asp Lys Ala Leu Asp Phe Pro Gly Phe Leu Asp Met Met Ala Pro
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Pro Asp Pro Gly His Pro Asp Pro Leu Thr
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<210> 316

<211> 4407

<212> DNA

<213> Homo sapiens

<400> 316

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<210> 317

<211> 837

<212> PRT

<213> Homo sapiens

<400> 317

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Trp Leu Trp Gly Ala Gln Pro Cys Leu Leu Leu Pro Ile Val Pro
20 25 30

Leu Ser Trp Leu Val Trp Leu Leu Leu Leu Leu Ala Ser Leu
35 40 45

Leu Pro Ser Ala Arg Leu Ala Ser Pro Leu Pro Arg Glu Glu Glu
50 55 60

Ile Val Phe Pro Glu Lys Leu Asn Gly Ser Val Leu Pro Gly Ser
65 70 75

Gly Ala Pro Ala Arg Leu Leu Cys Arg Leu Gln Ala Phe Gly Glu
80 85 90

Thr Leu Leu Leu Glu Leu Glu Gln Asp Ser Gly Val Gln Val Glu
95 100 105

Gly Leu Thr Val Gln Tyr Leu Gly Gln Ala Pro Glu Leu Leu Gly
110 115 120

Gly Ala Glu Pro Gly Thr Tyr Leu Thr Gly Thr Ile Asn Gly Asp
125 130 135

Pro Glu Ser Val Ala Ser Leu His Trp Asp Gly Gly Ala Leu Leu

| 140 | 145 | 150 |
|-------------------------------------|---------------------|-----|
| Gly Val Leu Gln Tyr Arg Gly Ala Glu | Leu His Leu Gln Pro | Leu |
| 155 | 160 | 165 |
| Glu Gly Gly Thr Pro Asn Ser Ala Gly | Gly Pro Gly Ala His | Ile |
| 170 | 175 | 180 |
| Leu Arg Arg Lys Ser Pro Ala Ser Gly | Gln Gly Pro Met Cys | Asn |
| 185 | 190 | 195 |
| Val Lys Ala Pro Leu Gly Ser Pro Ser | Pro Arg Pro Arg Arg | Ala |
| 200 | 205 | 210 |
| Lys Arg Phe Ala Ser Leu Ser Arg Phe | Val Glu Thr Leu Val | Val |
| 215 | 220 | 225 |
| Ala Asp Asp Lys Met Ala Ala Phe His | Gly Ala Gly Leu Lys | Arg |
| 230 | 235 | 240 |
| Tyr Leu Leu Thr Val Met Ala Ala Ala | Lys Ala Phe Lys | His |
| 245 | 250 | 255 |
| Pro Ser Ile Arg Asn Pro Val Ser Leu | Val Val Thr Arg Leu | Val |
| 260 | 265 | 270 |
| Ile Leu Gly Ser Gly Glu Glu Gly Pro | Gln Val Gly Pro Ser | Ala |
| 275 | 280 | 285 |
| Ala Gln Thr Leu Arg Ser Phe Cys Ala | Trp Gln Arg Gly Leu | Asn |
| 290 | 295 | 300 |
| Thr Pro Glu Asp Ser Gly Pro Asp His | Phe Asp Thr Ala Ile | Leu |
| 305 | 310 | 315 |
| Phe Thr Arg Gln Asp Leu Cys Gly Val | Ser Thr Cys Asp Thr | Leu |
| 320 | 325 | 330 |
| Gly Met Ala Asp Val Gly Thr Val Cys | Asp Pro Ala Arg Ser | Cys |
| 335 | 340 | 345 |
| Ala Ile Val Glu Asp Asp Gly Leu Gln | Ser Ala Phe Thr Ala | Ala |
| 350 | 355 | 360 |
| His Glu Leu Gly His Val Phe Asn Met | Leu His Asp Asn Ser | Lys |
| 365 | 370 | 375 |
| Pro Cys Ile Ser Leu Asn Gly Pro Leu | Ser Thr Ser Arg His | Val |
| 380 | 385 | 390 |
| Met Ala Pro Val Met Ala His Val Asp | Pro Glu Glu Pro Trp | Ser |
| 395 | 400 | 405 |
| Pro Cys Ser Ala Arg Phe Ile Thr Asp | Phe Leu Asp Asn Gly | Tyr |
| 410 | 415 | 420 |
| Gly His Cys Leu Leu Asp Lys Pro Glu | Ala Pro Leu His Leu | Pro |
| 425 | 430 | 435 |

Val Thr Phe Pro Gly Lys Asp Tyr Asp Ala Asp Arg Gln Cys Gln
 440 445 450
 Leu Thr Phe Gly Pro Asp Ser Arg His Cys Pro Gln Leu Pro Pro
 455 460 465
 Pro Cys Ala Ala Leu Trp Cys Ser Gly His Leu Asn Gly His Ala
 470 475 480
 Met Cys Gln Thr Lys His Ser Pro Trp Ala Asp Gly Thr Pro Cys
 485 490 495
 Gly Pro Ala Gln Ala Cys Met Gly Gly Arg Cys Leu His Met Asp
 500 505 510
 Gln Leu Gln Asp Phe Asn Ile Pro Gln Ala Gly Gly Trp Gly Pro
 515 520 525
 Trp Gly Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly Gly Gly Val
 530 535 540
 Gln Phe Ser Ser Arg Asp Cys Thr Arg Pro Val Pro Arg Asn Gly
 545 550 555
 Gly Lys Tyr Cys Glu Gly Arg Arg Thr Arg Phe Arg Ser Cys Asn
 560 565 570
 Thr Glu Asp Cys Pro Thr Gly Ser Ala Leu Thr Phe Arg Glu Glu
 575 580 585
 Gln Cys Ala Ala Tyr Asn His Arg Thr Asp Leu Phe Lys Ser Phe
 590 595 600
 Pro Gly Pro Met Asp Trp Val Pro Arg Tyr Thr Gly Val Ala Pro
 605 610 615
 Gln Asp Gln Cys Lys Leu Thr Cys Gln Ala Arg Ala Leu Gly Tyr
 620 625 630
 Tyr Tyr Val Leu Glu Pro Arg Val Val Asp Gly Thr Pro Cys Ser
 635 640 645
 Pro Asp Ser Ser Ser Val Cys Val Gln Gly Arg Cys Ile His Ala
 650 655 660
 Gly Cys Asp Arg Ile Ile Gly Ser Lys Lys Lys Phe Asp Lys Cys
 665 670 675
 Met Val Cys Gly Gly Asp Gly Ser Gly Cys Ser Lys Gln Ser Gly
 680 685 690
 Ser Phe Arg Lys Phe Arg Tyr Gly Tyr Asn Asn Val Val Thr Ile
 695 700 705
 Pro Ala Gly Ala Thr His Ile Leu Val Arg Gln Gln Gly Asn Pro
 710 715 720
 Gly His Arg Ser Ile Tyr Leu Ala Leu Lys Leu Pro Asp Gly Ser

725 730 735

Tyr Ala Leu Asn Gly Glu Tyr Thr Leu Met Pro Ser Pro Thr Asp
740 745 750

Val Val Leu Pro Gly Ala Val Ser Leu Arg Tyr Ser Gly Ala Thr
755 760 765

Ala Ala Ser Glu Thr Leu Ser Gly His Gly Pro Leu Ala Gln Pro
770 775 780

Leu Thr Leu Gln Val Leu Val Ala Gly Asn Pro Gln Asp Thr Arg
785 790 795

Leu Arg Tyr Ser Phe Phe Val Pro Arg Pro Thr Pro Ser Thr Pro
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Arg Pro Thr Pro Gln Asp Trp Leu His Arg Arg Ala Gln Ile Leu
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Glu Ile Leu Arg Arg Arg Pro Trp Ala Gly Arg Lys
830 835

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<212> DNA
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<222> 1-23
<223> Synthetic construct.

<400> 318
ccctgaagct gccagatggc tcc 23

<210> 319
<211> 24
<212> DNA
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<220>
<221> Artificial Sequence
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<223> Synthetic construct.

<400> 319
ctgtgctttt cggtgcagcc agtc 24

<210> 320
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<212> DNA
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<220>
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<222> 1-43
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<212> DNA
<213> Homo sapiens

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tgatcctgtg accagaactg aaatattcag aagcggaaat ggactgtatg 350
aacatttggaa agtgcacgac tttaaaaacg gatacactgg catctacttc 400
gtgggtcttc aaaaatgttt tatcaaaact cagattaaag tgattcctga 450
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aaccgagatt ttcttaaaaa ttccaaaatt ctggagattt gtgataacgt 600
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<210> 322

<211> 317
<212> PRT
<213> Homo sapiens

<400> 322

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Lys | Asn | Pro | Pro | Glu | Asn | Cys | Glu | Asp | Cys | His | Ile | Leu | |
| 1 | | | | 5 | | | | 10 | | | | | | | 15 |
| Asn | Ala | Glu | Ala | Phe | Lys | Ser | Lys | Lys | Ile | Cys | Lys | Ser | Leu | Lys | |
| | | 20 | | | | | 25 | | | | | | | | 30 |
| Ile | Cys | Gly | Leu | Val | Phe | Gly | Ile | Leu | Ala | Leu | Thr | Leu | Ile | Val | |
| | | 35 | | | | | 40 | | | | | | | | 45 |
| Leu | Phe | Trp | Gly | Ser | Lys | His | Phe | Trp | Pro | Glu | Val | Pro | Lys | Lys | |
| | | 50 | | | | | 55 | | | | | | | | 60 |
| Ala | Tyr | Asp | Met | Glu | His | Thr | Phe | Tyr | Ser | Asn | Gly | Glu | Lys | Lys | |
| | | 65 | | | | | 70 | | | | | | | | 75 |
| Lys | Ile | Tyr | Met | Glu | Ile | Asp | Pro | Val | Thr | Arg | Thr | Glu | Ile | Phe | |
| | | 80 | | | | | 85 | | | | | | | | 90 |
| Arg | Ser | Gly | Asn | Gly | Thr | Asp | Glu | Thr | Leu | Glu | Val | His | Asp | Phe | |
| | | 95 | | | | | 100 | | | | | | | | 105 |
| Lys | Asn | Gly | Tyr | Thr | Gly | Ile | Tyr | Phe | Val | Gly | Leu | Gln | Lys | Cys | |
| | | 110 | | | | | 115 | | | | | | | | 120 |
| Phe | Ile | Lys | Thr | Gln | Ile | Lys | Val | Ile | Pro | Glu | Phe | Ser | Glu | Pro | |
| | | 125 | | | | | 130 | | | | | | | | 135 |
| Glu | Glu | Glu | Ile | Asp | Glu | Asn | Glu | Glu | Ile | Thr | Thr | Thr | Phe | Phe | |
| | | 140 | | | | | 145 | | | | | | | | 150 |
| Glu | Gln | Ser | Val | Ile | Trp | Val | Pro | Ala | Glu | Lys | Pro | Ile | Glu | Asn | |
| | | 155 | | | | | 160 | | | | | | | | 165 |
| Arg | Asp | Phe | Leu | Lys | Asn | Ser | Lys | Ile | Leu | Glu | Ile | Cys | Asp | Asn | |
| | | 170 | | | | | 175 | | | | | | | | 180 |
| Val | Thr | Met | Tyr | Trp | Ile | Asn | Pro | Thr | Leu | Ile | Ser | Val | Ser | Glu | |
| | | 185 | | | | | 190 | | | | | | | | 195 |
| Leu | Gln | Asp | Phe | Glu | Glu | Glu | Gly | Glu | Asp | Leu | His | Phe | Pro | Ala | |
| | | 200 | | | | | 205 | | | | | | | | 210 |
| Asn | Glu | Lys | Lys | Gly | Ile | Glu | Gln | Asn | Glu | Gln | Trp | Val | Val | Pro | |
| | | 215 | | | | | 220 | | | | | | | | 225 |
| Gln | Val | Lys | Val | Glu | Lys | Thr | Arg | His | Ala | Arg | Gln | Ala | Ser | Glu | |
| | | 230 | | | | | 235 | | | | | | | | 240 |
| Glu | Glu | Leu | Pro | Ile | Asn | Asp | Tyr | Thr | Glu | Asn | Gly | Ile | Glu | Phe | |
| | | 245 | | | | | 250 | | | | | | | | 255 |
| Asp | Pro | Met | Leu | Asp | Glu | Arg | Gly | Tyr | Cys | Cys | Ile | Tyr | Cys | Arg | |
| | | 260 | | | | | 265 | | | | | | | | 270 |

Arg Gly Asn Arg Tyr Cys Arg Arg Val Cys Glu Pro Leu Leu Gly
275 280 285

Tyr Tyr Pro Tyr Pro Tyr Cys Tyr Gln Gly Gly Arg Val Ile Cys
290 295 300

Arg Val Ile Met Pro Cys Asn Trp Trp Val Ala Arg Met Leu Gly
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Arg Val

<210> 323

<211> 1174

<212> DNA

<213> Homo sapiens

<400> 323

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<211> 239
<212> PRT
<213> Homo sapiens

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35 40 45
Tyr Leu Lys Gly Leu Trp Met Glu Cys Val Trp His Ser Thr Gly
50 55 60
Ile Tyr Gln Cys Gln Ile Tyr Arg Ser Leu Leu Ala Leu Pro Gln
65 70 75
Asp Leu Gln Ala Ala Arg Ala Leu Met Val Ile Ser Cys Leu Leu
80 85 90
Ser Gly Ile Ala Cys Ala Cys Ala Val Ile Gly Met Lys Cys Thr
95 100 105
Arg Cys Ala Lys Gly Thr Pro Ala Lys Thr Thr Phe Ala Ile Leu
110 115 120
Gly Gly Thr Leu Phe Ile Leu Ala Gly Leu Leu Cys Met Val Ala
125 130 135
Val Ser Trp Thr Thr Asn Asp Val Val Gln Asn Phe Tyr Asn Pro
140 145 150
Leu Leu Pro Ser Gly Met Lys Phe Glu Ile Gly Gln Ala Leu Tyr
155 160 165
Leu Gly Phe Ile Ser Ser Ser Leu Ser Leu Ile Gly Gly Thr Leu
170 175 180
Leu Cys Leu Ser Cys Gln Asp Glu Ala Pro Tyr Arg Pro Tyr Gln
185 190 195
Ala Pro Pro Arg Ala Thr Thr Thr Ala Asn Thr Ala Pro Ala
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Tyr Gln Pro Pro Ala Ala Tyr Lys Asp Asn Arg Ala Pro Ser Val
215 220 225

Thr Ser Ala Thr His Ser Gly Tyr Arg Leu Asn Asp Tyr Val
230 235

<210> 325

<211> 2121

<212> DNA

<213> Homo sapiens

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<210> 326
<211> 261
<212> PRT
<213> Homo sapiens

<400> 326

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| Met | Ser | Thr | Thr | Thr | Cys | Gln | Val | Val | Ala | Phe | Leu | Leu | Ser | Ile |
| 1 | | | | | | | | | | | | | | 15 |
| Leu | Gly | Leu | Ala | Gly | Cys | Ile | Ala | Ala | Thr | Gly | Met | Asp | Met | Trp |
| | | | | | | 20 | | | 25 | | | | | 30 |
| Ser | Thr | Gln | Asp | Leu | Tyr | Asp | Asn | Pro | Val | Thr | Ser | Val | Phe | Gln |
| | | | | | | | | | 35 | | | | | 45 |
| Tyr | Glu | Gly | Leu | Trp | Arg | Ser | Cys | Val | Arg | Gln | Ser | Ser | Gly | Phe |
| | | | | | | | | | 50 | | | | | 60 |
| Thr | Glu | Cys | Arg | Pro | Tyr | Phe | Thr | Ile | Leu | Gly | Leu | Pro | Ala | Met |
| | | | | | | | | 65 | | | | | | 75 |
| Leu | Gln | Ala | Val | Arg | Ala | Leu | Met | Ile | Val | Gly | Ile | Val | Leu | Gly |

| 80 | 85 | 90 |
|---|-----|-----|
| Ala Ile Gly Leu Leu Val Ser Ile Phe Ala Leu Lys Cys Ile Arg | | |
| 95 | 100 | 105 |
| Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr | | |
| 110 | 115 | 120 |
| Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly | | |
| 125 | 130 | 135 |
| Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser | | |
| 140 | 145 | 150 |
| Thr Ala Asn Met Tyr Thr Gly Met Gly Gly Met Val Gln Thr Val | | |
| 155 | 160 | 165 |
| Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val | | |
| 170 | 175 | 180 |
| Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala | | |
| 185 | 190 | 195 |
| Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser | | |
| 200 | 205 | 210 |
| Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe | | |
| 215 | 220 | 225 |
| Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile | | |
| 230 | 235 | 240 |
| Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro | | |
| 245 | 250 | 255 |
| Ser Lys His Asp Tyr Val | | |
| 260 | | |

<210> 327

<211> 2010

<212> DNA

<213> Homo sapiens

<400> 327

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<210> 328
<211> 225
<212> PRT
<213> Homo sapiens

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35 40 45
Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile
50 55 60
Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro
65 70 75
Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met
80 85 90
Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr
95 100 105
Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu
110 115 120
Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile
125 130 135
Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn
140 145 150
Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu
155 160 165
Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala
170 175 180
Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser Tyr
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200 205 210

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val
215 220 225

<210> 329

<211> 1315

<212> DNA

<213> Homo sapiens

<400> 329

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<212> PRT
<213> Homo sapiens

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35 40 45
Val Trp Glu Gly Leu Trp Met Ser Cys Val Val Gln Ser Thr Gly
50 55 60
Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln
65 70 75
Asp Leu Gln Ala Ala Arg Ala Leu Cys Val Ile Ala Leu Leu Val
80 85 90
Ala Leu Phe Gly Leu Leu Val Tyr Leu Ala Gly Ala Lys Cys Thr
95 100 105
Thr Cys Val Glu Glu Lys Asp Ser Lys Ala Arg Leu Val Leu Thr
110 115 120
Ser Gly Ile Val Phe Val Ile Ser Gly Val Leu Thr Leu Ile Pro
125 130 135
Val Cys Trp Thr Ala His Ala Ile Arg Asp Phe Tyr Asn Pro
140 145 150
Leu Val Ala Glu Ala Gln Lys Arg Glu Leu Gly Ala Ser Leu Tyr
155 160 165
Leu Gly Trp Ala Ala Ser Gly Leu Leu Leu Gly Gly Gly Leu
170 175 180
Leu Cys Cys Thr Cys Pro Ser Gly Gly Ser Gln Gly Pro Ser His
185 190 195
Tyr Met Ala Arg Tyr Ser Thr Ser Ala Pro Ala Ile Ser Arg Gly
200 205 210
Pro Ser Glu Tyr Pro Thr Lys Asn Tyr Val
215 220

<210> 331
<211> 1160
<212> DNA

<213> Homo sapiens

<400> 331

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gtaaaggcaa tggcattta tcccttgcaa attgctggc tggttcttgg 150
gttccttggc atgggtggga ctcttgccac aacccttctg cctcagtgg 200
ggagtatcag ctttgttgg cagcaacatt attgtcttg agaggctctg 250
ggaagggctc tggatgaatt gcatccgaca agccagggc cggttgcaat 300
gcaagttcta tagtccttg ttggctctcc cgccctgcctt ggaaacagcc 350
cgccccctca tgtgtgtggc tggctcttc tccttgatcg ccctgcttat 400
tggcatctgt ggcataaaggc aggtccagtg cacaggctct aacgagaggg 450
ccaaagcata ccttctggga acttcaggag tcctcttcat cctgacgggt 500
atcttcgttc tgattccgggt gagctggaca gccaatataa tcatacagaga 550
tttctacaac ccagccatcc acataggtca gaaacgagag ctggagcag 600
cactttcct tggctggca agcgctgctg tcctcttcat tggaggggt 650
ctgctttgtg gatttgttg ctgcaacaga aagaagcaag ggtacagata 700
tccagtgccct ggctaccgtg tgccacacac agataagcga agaaatacga 750
caatgcttag taagacctcc accagttatg tctaatgcct cctttggct 800
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taagtatgtg aggcaaggaga acttgctta tgtcttagatt tacattgata 900
cgaaagtttc aatttgttac tggggtagg aatgaaaatg acttacttgg 950
acattctgac ttcagggtgttta taaaatgcat tgactattgt tggacccat 1000
cgctgctcca atttcatat tctaaattca agtataccca taatcattag 1050
caagtgtaca atgatggact acttattact tttgaccat catgtattat 1100
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<210> 332

<211> 173

<212> PRT

<213> Homo sapiens

<400> 332

Met Asn Cys Ile Arg Gln Ala Arg Val Arg Leu Gln Cys Lys Phe

| 1 | 5 | 10 | 15 |
|---|---|---------------------------------|-----|
| Tyr Ser Ser Leu Leu Ala | | Pro Pro Ala Leu Glu Thr Ala Arg | |
| 20 | | 25 | 30 |
| Ala Leu Met Cys Val Ala Val Ala | | Leu Ser Leu Ile Ala Leu Leu | |
| 35 | | 40 | 45 |
| Ile Gly Ile Cys Gly Met Lys Gln Val Gln Cys Thr Gly Ser Asn | | | |
| 50 | | 55 | 60 |
| Glu Arg Ala Lys Ala Tyr Leu Leu Gly Thr Ser Gly Val Leu Phe | | | |
| 65 | | 70 | 75 |
| Ile Leu Thr Gly Ile Phe Val Leu Ile Pro Val Ser Trp Thr Ala | | | |
| 80 | | 85 | 90 |
| Asn Ile Ile Ile Arg Asp Phe Tyr Asn Pro Ala Ile His Ile Gly | | | |
| 95 | | 100 | 105 |
| Gln Lys Arg Glu Leu Gly Ala Ala Leu Phe Leu Gly Trp Ala Ser | | | |
| 110 | | 115 | 120 |
| Ala Ala Val Leu Phe Ile Gly Gly Leu Leu Cys Gly Phe Cys | | | |
| 125 | | 130 | 135 |
| Cys Cys Asn Arg Lys Lys Gln Gly Tyr Arg Tyr Pro Val Pro Gly | | | |
| 140 | | 145 | 150 |
| Tyr Arg Val Pro His Thr Asp Lys Arg Arg Asn Thr Thr Met Leu | | | |
| 155 | | 160 | 165 |
| Ser Lys Thr Ser Thr Ser Tyr Val | | | |
| 170 | | | |

<210> 333
 <211> 535
 <212> DNA
 <213> Homo sapiens

<400> 333
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 ctcagaagct gctagtctgt ctccaaaaaa agtggactgc agcatttaca 150
 agaagtatcc agtggtgccc atccccgtcc ccatcacata cctaccagg 200
 tgtggttctg actacatcac ctatggaaat gaatgtcact tgtgtaccga 250
 gagcttggaaa agtaatggaa gagttcagtt tcttcacgat ggaagttgct 300
 aaattctcca tggacataga gagaaaggaa tgatattctc atcatcatct 350
 tcatcatccc aggctctgac tgagttctt tcagtttac tgatgttctg 400
 ggtgggggac agagccagat tcagagtaat cttgactgaa tggagaaagt 450

ttctgtgcta cccctacaaa cccatgcctc actgacagac cagcatttt 500
 ttttaacac gtcaataaaa aaataatctc ccaga 535

<210> 334
<211> 85
<212> PRT
<213> Homo sapiens

<400> 334

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Ile | Thr | Gly | Gly | Leu | Leu | Leu | Cys | Thr | Val | Val | Tyr |
| 1 | | | | 5 | | | | 10 | | | | | 15 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Cys | Ser | Ser | Ser | Glu | Ala | Ala | Ser | Leu | Ser | Pro | Lys | Lys | Val |
| | | | | 20 | | | | 25 | | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Cys | Ser | Ile | Tyr | Lys | Lys | Tyr | Pro | Val | Val | Ala | Ile | Pro | Cys |
| | | | | 35 | | | | 40 | | | | | 45 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ile | Thr | Tyr | Leu | Pro | Val | Cys | Gly | Ser | Asp | Tyr | Ile | Thr | Tyr |
| | | | | 50 | | | | 55 | | | | | 60 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Asn | Glu | Cys | His | Leu | Cys | Thr | Glu | Ser | Leu | Lys | Ser | Asn | Gly |
| | | | | 65 | | | | 70 | | | | | 75 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|
| Arg | Val | Gln | Phe | Leu | His | Asp | Gly | Ser | Cys | | | | | |
| | | | | 80 | | | | 85 | | | | | | |

<210> 335
<211> 742
<212> DNA
<213> Homo sapiens

<400> 335

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 tggccctgac cgggctggcg ctgctcctgc tcctgtgctg gggcccgagg 150
 ggcataagtg gaaataaact caagctgtatg cttcaaaaac gagaagcacc 200
 tgttccaact aagactaaag tggccgttga tgagaataaa gccaaagaat 250
 tccttggcag cctgaagcgc cagaagcggc agctgtggga ccggactcgg 300
 cccgaggtgc agcagtggta ccagcagttt ctctacatgg gctttgatga 350
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 gacatgaata ctatggcgat tactaccaac gtcactatga tgaagactct 450
 gcaattggtc ccoggagccc ctacggcttt aggcatggag ccagcgtcaa 500
 ctacgatgac tactaaccat gacttgccac acgctgtaca agaagcaaat 550
 agcgattctc ttcatgtatc tcctaattgcc ttacactact tggttctga 600

tttgctctat ttcagcagat ctttctacc tactttgtgt gatcaaaaaaa 650
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<210> 336
<211> 148
<212> PRT
<213> Homo sapiens

<400> 336
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20 25 30
Gly Asn Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val
35 40 45
Pro Thr Lys Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu
50 55 60
Phe Leu Gly Ser Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg
65 70 75
Thr Arg Pro Glu Val Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met
80 85 90
Gly Phe Asp Glu Ala Lys Phe Glu Asp Asp Ile Thr Tyr Trp Leu
95 100 105
Asn Arg Asp Arg Asn Gly His Glu Tyr Tyr Gly Asp Tyr Tyr Gln
110 115 120
Arg His Tyr Asp Glu Asp Ser Ala Ile Gly Pro Arg Ser Pro Tyr
125 130 135
Gly Phe Arg His Gly Ala Ser Val Asn Tyr Asp Asp Tyr
140 145

<210> 337
<211> 1310
<212> DNA
<213> Homo sapiens

<400> 337
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tgaagggtg ggtgatgagg tgaccgtcct tttctcggtg cttgcctgcc 150
ttctgggtct ggcccttgcc tgggtctcaa cgcacaccgc tgagggcggg 200
gaccactgc cccagccgtc agggacccca acgccatccc agcccagcgc 250

agccatggca gctaccgaca gcatgagagg ggaggccccca gggcagaga 300
cccccagcct gagacacaga ggtcaagctg cacagccaga gcccagcacg 350
gggttcacag caacaccgcc agccccggac tccccgcagg agcccctcg 400
gctacggctg aaattcctca atgattcaga gcaggtggcc agggcctggc 450
cccacgacac cattggctcc ttgaaaagga cccagttcc cgccgggaa 500
cagcaggtgc gactcatcta ccaagggcag ctgcttagcg acgacaccca 550
gaccctgggc agccttcacc tccctccaa ctgcgttctc cactgccacg 600
tgtccacgag agtcggtccc ccaaataccc cctgcccggcc ggggtccgag 650
cccgccccct ccgggctgga aatcggcagc ctgctgctgc ccctgctgct 700
cctgctgttg ctgctgctct ggtactgcca gatccagtagc cggcccttct 750
ttccctgac cgccactctg ggcctggccg gttcacccct gtcctcagt 800
ctcctggcat ttgccatgta ccgccccgtag tgcctccggc ggcgcttggc 850
agcgtcgccg gcccctccgg accttgctcc ccgcgcggcgc gcgggagctg 900
ctgcctgccc aggccccct ctcggcctg cctttcccg ctgcctgga 950
gcccagccct ggcggcaga ggactccgg gactggcggaa ggccccggccc 1000
tgcgaccgccc ggggctcggg gccacccccc ggggctgctg aacctcagcc 1050
cgcaactggga gtgggctctt cggggctcggg catctgctgt cgctgcctcg 1100
gccccgggca gagccgggccc gccccggggg cccgtcttag tggtctggcc 1150
gaggacccag ccgcctccaa tccctgacag ctccctggc tgagttgggg 1200
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gttccccgga acccgtgcag attaaagtaa ctgtgaagtt taaaaaaaaa 1300
aaaaaaaaaa 1310

<210> 338

<211> 246

<212> PRT

<213> Homo sapiens

<400> 338

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Leu | Ile | Glu | Gly | Val | Gly | Asp | Glu | Val | Thr | Val | Leu | Phe |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |
| Ser | Val | Leu | Ala | Cys | Leu | Leu | Val | Leu | Ala | Leu | Ala | Trp | Val | Ser |
| | | | | 20 | | | | | 25 | | | | 30 | |
| Thr | His | Thr | Ala | Glu | Gly | Gly | Asp | Pro | Leu | Pro | Gln | Pro | Ser | Gly |
| | | | | 35 | | | | 40 | | | | 45 | | |

HUMAN

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Thr | Pro | Ser | Gln | Pro | Ser | Ala | Ala | Met | Ala | Ala | Thr | Asp | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | 50 | 55 | 60 | |
| Ser | Met | Arg | Gly | Glu | Ala | Pro | Gly | Ala | Glu | Thr | Pro | Ser | Leu | Arg | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 65 | 70 | 75 |
| His | Arg | Gly | Gln | Ala | Ala | Gln | Pro | Glu | Pro | Ser | Thr | Gly | Phe | Thr | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 80 | 85 | 90 |
| Ala | Thr | Pro | Pro | Ala | Pro | Asp | Ser | Pro | Gln | Glu | Pro | Leu | Val | Leu | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 95 | 100 | 105 |
| Arg | Leu | Lys | Phe | Leu | Asn | Asp | Ser | Glu | Gln | Val | Ala | Arg | Ala | Trp | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 110 | 115 | 120 |
| Pro | His | Asp | Thr | Ile | Gly | Ser | Leu | Lys | Arg | Thr | Gln | Phe | Pro | Gly | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 125 | 130 | 135 |
| Arg | Glu | Gln | Gln | Val | Arg | Leu | Ile | Tyr | Gln | Gly | Gln | Leu | Leu | Gly | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 140 | 145 | 150 |
| Asp | Asp | Thr | Gln | Thr | Leu | Gly | Ser | Leu | His | Leu | Pro | Pro | Asn | Cys | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 155 | 160 | 165 |
| Val | Leu | His | Cys | His | Val | Ser | Thr | Arg | Val | Gly | Pro | Pro | Asn | Pro | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 170 | 175 | 180 |
| Pro | Cys | Pro | Pro | Gly | Ser | Glu | Pro | Gly | Pro | Ser | Gly | Leu | Glu | Ile | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 185 | 190 | 195 |
| Gly | Ser | Leu | Leu | Leu | Pro | Leu | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 200 | 205 | 210 |
| Trp | Tyr | Cys | Gln | Ile | Gln | Tyr | Arg | Pro | Phe | Phe | Pro | Leu | Thr | Ala | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 215 | 220 | 225 |
| Thr | Leu | Gly | Leu | Ala | Gly | Phe | Thr | Leu | Leu | Leu | Ser | Leu | Leu | Ala | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 230 | 235 | 240 |
| Phe | Ala | Met | Tyr | Arg | Pro | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 245 | | |

<210> 339

<211> 849

<212> DNA

<213> Homo sapiens

<400> 339

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caagacccta agaaccatca gccctcagct gcacccctc ccctccaagg 150

atgacaaagg cgctactcat ctatggtc agcagtttc ttgccctaaa 200

tcaggccagc ctcatcagtc gctgtgactt ggcccaggtg ctgcagctgg 250

aggacttgg a tgggttgag ggttactccc tgagtgactg gctgtgcctg 300
 gctttgtgg aaagcaagtt caacatatca aagataaatg aaaatgcgga 350
 tggaagctt gactatggcc tcttccagat caacagccac tactggtgca 400
 acgattataa gagttactcg gaaaacctt gccacgtaga ctgtcaagat 450
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 cttccatt tacaactaaa actgaccaga gccccagaa taaatggttt 750
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<210> 340

<211> 148

<212> PRT

<213> Homo sapiens

<400> 340

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Lys | Ala | Leu | Leu | Ile | Tyr | Leu | Val | Ser | Ser | Phe | Leu | Ala |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Asn | Gln | Ala | Ser | Leu | Ile | Ser | Arg | Cys | Asp | Leu | Ala | Gln | Val |
| | | | | | 20 | | | 25 | | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gln | Leu | Glu | Asp | Leu | Asp | Gly | Phe | Glu | Gly | Tyr | Ser | Leu | Ser |
| | | | | 35 | | | | 40 | | | | 45 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Trp | Leu | Cys | Leu | Ala | Phe | Val | Glu | Ser | Lys | Phe | Asn | Ile | Ser |
| | | | | 50 | | | | 55 | | | | 60 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ile | Asn | Glu | Asn | Ala | Asp | Gly | Ser | Phe | Asp | Tyr | Gly | Leu | Phe |
| | | | | 65 | | | | 70 | | | | 75 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ile | Asn | Ser | His | Tyr | Trp | Cys | Asn | Asp | Tyr | Lys | Ser | Tyr | Ser |
| | | | | 80 | | | | 85 | | | | 90 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Asn | Leu | Cys | His | Val | Asp | Cys | Gln | Asp | Leu | Leu | Asn | Pro | Asn |
| | | | | 95 | | | | 100 | | | | 105 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Ala | Gly | Ile | His | Cys | Ala | Lys | Arg | Ile | Val | Ser | Gly | Ala |
| | | | | 110 | | | | 115 | | | | 120 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gly | Met | Asn | Asn | Trp | Val | Glu | Trp | Arg | Leu | His | Cys | Ser | Gly |
| | | | | 125 | | | | 130 | | | | 135 | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Arg | Pro | Leu | Ser | Tyr | Trp | Leu | Thr | Gly | Cys | Arg | Leu | Arg | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|

<210> 341
<211> 23
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.

<400> 341
ccctccaagg atgacaaagg cgc 23

<210> 342
<211> 29
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-29
<223> Synthetic construct.

<400> 342
ggtcagcagc tttcttgccc taaatcagg 29

<210> 343
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 343
atctcaggcg gcatcctgtc agcc 24

<210> 344
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 344
gtggatgcct gcaagaaggt tggg 24

<210> 345
<211> 45
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.

<400> 345
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<210> 346
<211> 2575
<212> DNA
<213> Homo sapiens

<400> 346
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aaggagaaaa ccggggtaaa gggagggaaag caattcaatt tgaagtccct 200
gtgaatgggc tttcagaagg caattaaaga aatccactca gagaggactt 250
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tctggagggc ctgccacccct ttatctact gcggggaggat cagctgctgg 750
tggccgtggc cttacccag gccagaagga accagagcca gggcaggaga 800
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atcaggccc ggatgctggg ggccaccaga gccaccgggg atgtgctcgt 1300
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tcagcagaat agctggtgac aggagccgag tggtatctcc ggtgatagat 1400
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tatttcattg actgctggct gctta 2575

<210> 347

<211> 639

<212> PRT

<213> Homo sapiens

<400> 347

Met Leu Leu Arg Lys Arg Tyr Arg His Arg Pro Cys Arg Leu Gln
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Phe Leu Leu Leu Leu Met Leu Gly Cys Val Leu Met Met Val
20 25 30

Ala Met Leu His Pro Pro His His Thr Leu His Gln Thr Val Thr
35 40 45

Ala Gln Ala Ser Lys His Ser Pro Glu Ala Arg Tyr Arg Leu Asp
50 55 60

Phe Gly Glu Ser Gln Asp Trp Val Leu Glu Ala Glu Asp Glu Gly
65 70 75

Glu Glu Tyr Ser Pro Leu Glu Gly Leu Pro Pro Phe Ile Ser Leu
80 85 90

Arg Glu Asp Gln Leu Leu Val Ala Val Ala Leu Pro Gln Ala Arg
95 100 105

Arg Asn Gln Ser Gln Gly Arg Arg Gly Gly Ser Tyr Arg Leu Ile
110 115 120

Lys Gln Pro Arg Arg Gln Asp Lys Glu Ala Pro Lys Arg Asp Trp
125 130 135

Gly Ala Asp Glu Asp Gly Glu Val Ser Glu Glu Glu Glu Leu Thr
140 145 150

Pro Phe Ser Leu Asp Pro Arg Gly Leu Gln Glu Ala Leu Ser Ala
155 160 165

Arg Ile Pro Leu Gln Arg Ala Leu Pro Glu Val Arg His Pro Leu
170 175 180

Cys Leu Gln Gln His Pro Gln Asp Ser Leu Pro Thr Ala Ser Val
185 190 195

Ile Leu Cys Phe His Asp Glu Ala Trp Ser Thr Leu Leu Arg Thr
200 205 210

Val His Ser Ile Leu Asp Thr Val Pro Arg Ala Phe Leu Lys Glu
215 220 225

Ile Ile Leu Val Asp Asp Leu Ser Gln Gln Gly Gln Leu Lys Ser
230 235 240

Ala Leu Ser Glu Tyr Val Ala Arg Leu Glu Gly Val Lys Leu Leu
245 250 255

Arg Ser Asn Lys Arg Leu Gly Ala Ile Arg Ala Arg Met Leu Gly
 260 265 270
 Ala Thr Arg Ala Thr Gly Asp Val Leu Val Phe Met Asp Ala His
 275 280 285
 Cys Glu Cys His Pro Gly Trp Leu Glu Pro Leu Leu Ser Arg Ile
 290 295 300
 Ala Gly Asp Arg Ser Arg Val Val Ser Pro Val Ile Asp Val Ile
 305 310 315
 Asp Trp Lys Thr Phe Gln Tyr Tyr Pro Ser Lys Asp Leu Gln Arg
 320 325 330
 Gly Val Leu Asp Trp Lys Leu Asp Phe His Trp Glu Pro Leu Pro
 335 340 345
 Glu His Val Arg Lys Ala Leu Gln Ser Pro Ile Ser Pro Ile Arg
 350 355 360
 Ser Pro Val Val Pro Gly Glu Val Val Ala Met Asp Arg His Tyr
 365 370 375
 Phe Gln Asn Thr Gly Ala Tyr Asp Ser Leu Met Ser Leu Arg Gly
 380 385 390
 Gly Glu Asn Leu Glu Leu Ser Phe Lys Ala Trp Leu Cys Gly Gly
 395 400 405
 Ser Val Glu Ile Leu Pro Cys Ser Arg Val Gly His Ile Tyr Gln
 410 415 420
 Asn Gln Asp Ser His Ser Pro Leu Asp Gln Glu Ala Thr Leu Arg
 425 430 435
 Asn Arg Val Arg Ile Ala Glu Thr Trp Leu Gly Ser Phe Lys Glu
 440 445 450
 Thr Phe Tyr Lys His Ser Pro Glu Ala Phe Ser Leu Ser Lys Ala
 455 460 465
 Glu Lys Pro Asp Cys Met Glu Arg Leu Gln Leu Gln Arg Arg Leu
 470 475 480
 Gly Cys Arg Thr Phe His Trp Phe Leu Ala Asn Val Tyr Pro Glu
 485 490 495
 Leu Tyr Pro Ser Glu Pro Arg Pro Ser Phe Ser Gly Lys Leu His
 500 505 510
 Asn Thr Gly Leu Gly Leu Cys Ala Asp Cys Gln Ala Glu Gly Asp
 515 520 525
 Ile Leu Gly Cys Pro Met Val Leu Ala Pro Cys Ser Asp Ser Arg
 530 535 540
 Gln Gln Gln Tyr Leu Gln His Thr Ser Arg Lys Glu Ile His Phe

545 550 555
Gly Ser Pro Gln His Leu Cys Phe Ala Val Arg Gln Glu Gln Val
560 565 570
Ile Leu Gln Asn Cys Thr Glu Glu Gly Leu Ala Ile His Gln Gln
575 580 585
His Trp Asp Phe Gln Glu Asn Gly Met Ile Val His Ile Leu Ser
590 595 600
Gly Lys Cys Met Glu Ala Val Val Gln Glu Asn Asn Lys Asp Leu
605 610 615
Tyr Leu Arg Pro Cys Asp Gly Lys Ala Arg Gln Gln Trp Arg Phe
620 625 630
Asp Gln Ile Asn Ala Val Asp Glu Arg
635

<210> 348
<211> 23
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.

<400> 348
ggagaggtgg tggccatgga cag 23

<210> 349
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 349
ctgtcactgc aaggagccaa cacc 24

<210> 350
<211> 45
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.

<400> 350
tatgtcgctg cgaggtggtg aaaacctcga actgtcttgc aaggc 45

<210> 351
<211> 2524
<212> DNA
<213> Homo sapiens

<400> 351
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tccctctctg gccactgctg ttgctgcccc tcccaccgccc tgctcaggc 150
tcttcattcct cccctcgaac cccaccagcc ccagcccgcc cccctgtgc 200
caggggaggc ccctcgcccc cacgtcatgt gtgcgtgtgg gagcgagcac 250
ctccaccaag ccgatctcct cgggtcccaa gatcacgtcg gcaagtccctg 300
cctggcactg caccggcacc caccggatca ggctttgagg agggccgccc 350
ctcatcccaa tacccttggg ctatcggtg gggtcccacc gtgtctcgag 400
aggatggagg ggaccccaac tctgccaatc ccggatttct ggactatgg 450
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tcaaataaaag ccttgcaag ataa 2524

<210> 352

<211> 243

<212> PRT

<213> Homo sapiens

<400> 352

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Pro | Gln | Gly | Pro | Ala | Ala | Ser | Pro | Gln | Arg | Leu | Arg | Gly |
| 1 | | | | | 5 | | | | 10 | | | | 15 | |

Leu Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala
 20 25 30
 Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg
 35 40 45
 Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala
 50 55 60
 Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro
 65 70 75
 Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys
 80 85 90
 Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn
 95 100 105
 Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu
 110 115 120
 Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser
 125 130 135
 Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
 140 145 150
 Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
 155 160 165
 Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
 170 175 180
 Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
 185 190 195
 Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
 200 205 210
 Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
 215 220 225
 Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
 230 235 240

Leu Pro Lys

<210> 353
 <211> 480
 <212> DNA
 <213> Homo sapiens

<400> 353
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tccggggttc tggccccgtgc ggtgctcaca gacgatgttc cacaggagcc 150
cgtgccacg ctgtggAACG agccggCCGA gctGCCGTCG ggagaaggcc 200
ccgtggagag caccAGCCCC ggCCGGGAGC ccgtggACAC cggtCCCCCA 250
gccccCACCG tcgcGCCAGG ACCCGAGGAC agcaccGCGC aggAGCGGCT 300
ggaccaggGC ggcgggtcgc tggggcccgg cgctatcgCG gccatcgtga 350
tcgcGCCCT gctggccACC tgcgtggTCG tggcgctcGT ggtcgTCGCG 400
ctgagaaagt tttctgcCTC ctgaAGCGAA taaAGGGCC gcGCCCGGCC 450
gcggcgcGAC tcggcaaaaa aaaaaaaaaa 480

<210> 354

<211> 121

<212> PRT

<213> Homo sapiens

<400> 354

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Ala | Ser | Cys | Leu | Ala | Leu | Arg | Met | Ala | Leu | Leu | Leu | Val | Ser | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Gly | Val | Leu | Ala | Pro | Ala | Val | Leu | Thr | Asp | Asp | Val | Pro | Gln | Glu | |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Pro | Val | Pro | Thr | Leu | Trp | Asn | Glu | Pro | Ala | Glu | Leu | Pro | Ser | Gly | |
| | | | 35 | | | | | 40 | | | | | 45 | | |
| Glu | Gly | Pro | Val | Glu | Ser | Thr | Ser | Pro | Gly | Arg | Glu | Pro | Val | Asp | |
| | | | 50 | | | | | 55 | | | | | 60 | | |
| Thr | Gly | Pro | Pro | Ala | Pro | Thr | Val | Ala | Pro | Gly | Pro | Glu | Asp | Ser | |
| | | | 65 | | | | | 70 | | | | | 75 | | |
| Thr | Ala | Gln | Glu | Arg | Leu | Asp | Gln | Gly | Gly | Gly | Ser | Leu | Gly | Pro | |
| | | | 80 | | | | | 85 | | | | | 90 | | |
| Gly | Ala | Ile | Ala | Ala | Ile | Val | Ile | Ala | Ala | Leu | Leu | Ala | Thr | Cys | |
| | | | 95 | | | | | 100 | | | | | 105 | | |
| Val | Val | Leu | Ala | Leu | Val | Val | Val | Ala | Leu | Arg | Lys | Phe | Ser | Ala | |
| | | | 110 | | | | | 115 | | | | | 120 | | |

Ser

<210> 355

<211> 2134

<212> DNA

<213> Homo sapiens

<400> 355

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gttggccggc ggcgggCCGG gacgggcatg gccctgctgc tgtgcctgg 100

gtgcctgacg gcggcgctgg cccacggctg tctgcactgc cacagcaact 150
tctccaagaa gtttccttc taccgccacc atgtgaactt caagtctgg 200
tgggtggcgc acatccccgt gtcaggggcg ctgctcacccg actggagcga 250
cgacacgatg aaggagctgc acctggccat ccccgccaag atcaccggg 300
agaagctgga ccaagtggcg acagcagtgt accagatgat ggatcagctg 350
taccagggga agatgtactt ccccggtat ttccccaacg agctgcgaaa 400
catcttccgg gaggcagggtgc acctcatcca gaacgcccattc atcgaaaggc 450
accttggcacc aggccagctgg ggaggaggc agctctccag ggagggaccc 500
agcctagcac ctgaaggatc aatgccccatca ccccgccggg acctccctta 550
atggacacac atacatgaaa accaggccgc atcgactgtc agcaccgctg 600
tggcatcttc cagtacgaga ccatttcctg caacaactgc acagactcgc 650
acgtcgccctg ctttggttat aactgcgagt agggctcagg catcacaccc 700
acccgtgcca gggccctact gtccctgggg tcccaggctc tccttgagg 850
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tggaagtcag ctgtccaggg ctcctgaac tacataaata actggcacaa 1000
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gctgggcctg ccccaggca acgtgggggc ggagactcag ctggacagcc 1950
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cgaccccgga cagagctgag ctggccaggg ccaggaggc gggagggagg 2050
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ctgcggatg tgattaaagt ccctgatgtt tctc 2134

<210> 356

<211> 157

<212> PRT

<213> Homo sapiens

<400> 356

Met Ala Leu Leu Leu Cys Leu Val Cys Leu Thr Ala Ala Leu Ala
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His Gly Cys Leu His Cys His Ser Asn Phe Ser Lys Lys Phe Ser
20 25 30

Phe Tyr Arg His His Val Asn Phe Lys Ser Trp Trp Val Gly Asp
35 40 45

Ile Pro Val Ser Gly Ala Leu Leu Thr Asp Trp Ser Asp Asp Thr
50 55 60

Met Lys Glu Leu His Leu Ala Ile Pro Ala Lys Ile Thr Arg Glu
65 70 75

Lys Leu Asp Gln Val Ala Thr Ala Val Tyr Gln Met Met Asp Gln
80 85 90

Leu Tyr Gln Gly Lys Met Tyr Phe Pro Gly Tyr Phe Pro Asn Glu
95 100 105

Leu Arg Asn Ile Phe Arg Glu Gln Val His Leu Ile Gln Asn Ala
110 115 120

Ile Ile Glu Arg His Leu Ala Pro Gly Ser Trp Gly Gly Gln
125 130 135

Leu Ser Arg Glu Gly Pro Ser Leu Ala Pro Glu Gly Ser Met Pro

140

145

150

Ser Pro Arg Gly Asp Leu Pro
155

<210> 357

<211> 1536

<212> DNA

<213> Homo sapiens

<400> 357

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ttgagaaaatc ctcagatggt cctggtgctg cccaggaacc cacgtggctc 150
acagatgtcc cagctgccat ggaattcatt gctgccactg aggtggctgt 200
cataggcttc ttccaggatt tagaaatacc agcagtgccc atactccata 250
gcatggtgca aaaattccca ggcgtgtcat ttgggatcag cactgattct 300
gaggttctga cacactacaa catcactggg aacaccatct gcctcttcg 350
cctggtagac aatgaacaac tgaatttga ggacgaagac attgaaagca 400
ttgatgccac caaattgagc cgtttcattt agatcaacag cctccacatg 450
gtgacagagt acaaccctgt gactgtgatt gggttattca acagcgtaat 500
tcagattcat ctcctcctga taatgaacaa ggcctccccca gagtatgaag 550
agaacatgca cagataccag aaggcagcca agctcttcca ggggaagatt 600
ctctttattt tgggtggacag tggatgaaa gaaaatggga aggtgatatac 650
atttttcaaa ctaaaggagt ctcaactgcc agctttggca atttaccaga 700
ctcttagatga cgagtggat acactgccca cagcagaagt ttccgttagag 750
catgtgcaaa acttttgtga tggattccta agtggaaaat tggatgaaaga 800
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ttggaactac atatggccaa gtatctactt tatgcaaagt aaaaaggcac 900
aactcaaatac tcagagacac taaacaacag gatcactagg cctgccaacc 950
acacacacac gcacgtgcac acacgcacgc acgcgtgcac acacacacgc 1000
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tctcttcttc cttctttaa atttcataatc ctcactccct atccaatttc 1100
cttcttatcg tgcattcata ctctgtaaac ccacacacac 1150
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caacctgcat aataaataaa aggcaatcat gttata 1536

<210> 358

<211> 273

<212> PRT

<213> Homo sapiens

<400> 358

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Ala | Ala | Pro | Ser | Arg | Phe | Met | Phe | Leu | Leu | Phe | Leu | Leu |
| 1 | | | | 5 | | | | 10 | | | | 15 | | |
| Thr | Cys | Glu | Leu | Ala | Ala | Glu | Val | Ala | Ala | Glu | Val | Glu | Lys | Ser |
| | | | | | 20 | | | | 25 | | | | 30 | |
| Ser | Asp | Gly | Pro | Gly | Ala | Ala | Gln | Glu | Pro | Thr | Trp | Leu | Thr | Asp |
| | | | | | 35 | | | 40 | | | | 45 | | |
| Val | Pro | Ala | Ala | Met | Glu | Phe | Ile | Ala | Ala | Thr | Glu | Val | Ala | Val |
| | | | | 50 | | | | 55 | | | | 60 | | |
| Ile | Gly | Phe | Phe | Gln | Asp | Leu | Glu | Ile | Pro | Ala | Val | Pro | Ile | Leu |
| | | | | 65 | | | | 70 | | | | 75 | | |
| His | Ser | Met | Val | Gln | Lys | Phe | Pro | Gly | Val | Ser | Phe | Gly | Ile | Ser |
| | | | | 80 | | | | 85 | | | | 90 | | |
| Thr | Asp | Ser | Glu | Val | Leu | Thr | His | Tyr | Asn | Ile | Thr | Gly | Asn | Thr |
| | | | | 95 | | | | 100 | | | | 105 | | |
| Ile | Cys | Leu | Phe | Arg | Leu | Val | Asp | Asn | Glu | Gln | Leu | Asn | Leu | Glu |
| | | | | 110 | | | | 115 | | | | 120 | | |
| Asp | Glu | Asp | Ile | Glu | Ser | Ile | Asp | Ala | Thr | Lys | Leu | Ser | Arg | Phe |
| | | | | 125 | | | | 130 | | | | 135 | | |
| Ile | Glu | Ile | Asn | Ser | Leu | His | Met | Val | Thr | Glu | Tyr | Asn | Pro | Val |
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| Thr | Val | Ile | Gly | Leu | Phe | Asn | Ser | Val | Ile | Gln | Ile | His | Leu | Leu |
| | | | | 155 | | | | 160 | | | | 165 | | |
| Leu | Ile | Met | Asn | Lys | Ala | Ser | Pro | Glu | Tyr | Glu | Glu | Asn | Met | His |
| | | | | 170 | | | | 175 | | | | 180 | | |
| Arg | Tyr | Gln | Lys | Ala | Ala | Lys | Leu | Phe | Gln | Gly | Lys | Ile | Leu | Phe |
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Ile Leu Val Asp Ser Gly Met Lys Glu Asn Gly Lys Val Ile Ser
200 205 210

Phe Phe Lys Leu Lys Glu Ser Gln Leu Pro Ala Leu Ala Ile Tyr
215 220 225

Gln Thr Leu Asp Asp Glu Trp Asp Thr Leu Pro Thr Ala Glu Val
230 235 240

Ser Val Glu His Val Gln Asn Phe Cys Asp Gly Phe Leu Ser Gly
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Lys Leu Leu Lys Glu Asn Arg Glu Ser Glu Gly Lys Thr Pro Lys
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Val Glu Leu

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<211> 269

<212> PRT

<213> Homo sapiens

<400> 364

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Leu Thr Ala Gly Val Ser Ala Leu Glu Val Tyr Thr Pro Lys Glu
35 40 45

Ile Phe Val Ala Asn Gly Thr Gln Gly Lys Leu Thr Cys Lys Phe
50 55 60

Lys Ser Thr Ser Thr Gly Gly Leu Thr Ser Val Ser Trp Ser
65 70 75

Phe Gln Pro Glu Gly Ala Asp Thr Thr Val Ser Phe Phe His Tyr
80 85 90

Ser Gln Gly Gln Val Tyr Leu Gly Asn Tyr Pro Pro Phe Lys Asp
95 100 105

Arg Ile Ser Trp Ala Gly Asp Leu Asp Lys Lys Asp Ala Ser Ile
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 Asn Ile Glu Asn Met Gln Phe Ile His Asn Gly Thr Tyr Ile Cys
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 Asp Val Lys Asn Pro Pro Asp Ile Val Val Gln Pro Gly His Ile
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 Arg Leu Tyr Val Val Glu Lys Glu Asn Leu Pro Val Phe Pro Val
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 Trp Val Val Val Gly Ile Val Thr Ala Val Val Leu Gly Leu Thr
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 Leu Leu Ile Ser Met Ile Leu Ala Val Leu Tyr Arg Arg Lys Asn
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 Ser Lys Arg Asp Tyr Thr Gly Cys Ser Thr Ser Glu Ser Leu Ser
 200 205 210
 Pro Val Lys Gln Ala Pro Arg Lys Ser Pro Ser Asp Thr Glu Gly
 215 220 225
 Leu Val Lys Ser Leu Pro Ser Gly Ser His Gln Gly Pro Val Ile
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<211> 1321

<212> DNA

<213> Homo sapiens

<400> 365

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<210> 366

<211> 373

<212> PRT

<213> Homo sapiens

<400> 366

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Tyr | Arg | Leu | Leu | Ser | Ala | Val | Thr | Ala | Arg | Ala | Ala | Ala | Pro |
| 1 | | | | | | | | | | | | | | 15 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Leu | Ala | Ser | Ser | Cys | Gly | Arg | Arg | Gly | Val | His | Gln | Arg |
| | | | | | | | | | | | | | | 30 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gly | Leu | Pro | Pro | Leu | Gly | His | Gly | Trp | Val | Gly | Gly | Leu | Gly |
| | | | | | | | | | | | | | | 45 |

| | | | | | | | | | | | | | | |
|----|--|--|--|--|--|--|--|--|----|--|--|--|--|----|
| 35 | | | | | | | | | 40 | | | | | |
| | | | | | | | | | | | | | | 45 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gly | Leu | Gly | Leu | Ala | Leu | Gly | Val | Lys | Leu | Ala | Gly | Gly | Leu |
| | | | | | | | | | | | | | | 60 |

| | | | | | | | | | | | | | | |
|----|--|--|--|--|--|--|--|--|----|--|--|--|--|----|
| 50 | | | | | | | | | 55 | | | | | |
| | | | | | | | | | | | | | | 60 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gly | Ala | Ala | Pro | Ala | Gln | Ser | Pro | Ala | Ala | Pro | Asp | Pro | Glu |
| | | | | | | | | | | | | | | 75 |

| | | | | | | | | | | | | | | |
|----|--|--|--|--|--|--|--|--|----|--|--|--|--|----|
| 65 | | | | | | | | | 70 | | | | | |
| | | | | | | | | | | | | | | 75 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Pro | Leu | Ala | Glu | Pro | Pro | Gln | Glu | Gln | Ser | Leu | Ala | Pro |
| | | | | | | | | | | | | | | 90 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ser | Pro | Gln | Thr | Pro | Ala | Pro | Pro | Cys | Ser | Arg | Cys | Phe | Ala |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Arg | Ala | Ile | Glu | Ser | Ser | Arg | Asp | Leu | Leu | His | Arg | Ile | Lys | Asp |
| | | | | 110 | | | | | 115 | | | | | 120 |
| Glu | Val | Gly | Ala | Pro | Gly | Ile | Val | Val | Gly | Val | Ser | Val | Asp | Gly |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Lys | Glu | Val | Trp | Ser | Glu | Gly | Leu | Gly | Tyr | Ala | Asp | Val | Glu | Asn |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Arg | Val | Pro | Cys | Lys | Pro | Glu | Thr | Val | Met | Arg | Ile | Ala | Ser | Ile |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Ser | Lys | Ser | Leu | Thr | Met | Val | Ala | Leu | Ala | Lys | Leu | Trp | Glu | Ala |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Gly | Lys | Leu | Asp | Leu | Asp | Ile | Pro | Val | Gln | His | Tyr | Val | Pro | Glu |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Phe | Pro | Glu | Lys | Glu | Tyr | Glu | Gly | Glu | Lys | Val | Ser | Val | Thr | Thr |
| | | | | 200 | | | | | 205 | | | | | 210 |
| Arg | Leu | Leu | Ile | Ser | His | Leu | Ser | Gly | Ile | Arg | His | Tyr | Glu | Lys |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Asp | Ile | Lys | Lys | Val | Lys | Glu | Glu | Lys | Ala | Tyr | Lys | Ala | Leu | Lys |
| | | | | 230 | | | | | 235 | | | | | 240 |
| Met | Met | Lys | Glu | Asn | Val | Ala | Phe | Glu | Gln | Glu | Lys | Glu | Gly | Lys |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Ser | Asn | Glu | Lys | Asn | Asp | Phe | Thr | Lys | Phe | Lys | Thr | Glu | Gln | Glu |
| | | | | 260 | | | | | 265 | | | | | 270 |
| Asn | Glu | Ala | Lys | Cys | Arg | Asn | Ser | Lys | Pro | Gly | Lys | Lys | Lys | Asn |
| | | | | 275 | | | | | 280 | | | | | 285 |
| Asp | Phe | Glu | Gln | Gly | Glu | Leu | Tyr | Leu | Arg | Glu | Lys | Phe | Glu | Asn |
| | | | | 290 | | | | | 295 | | | | | 300 |
| Ser | Ile | Glu | Ser | Leu | Arg | Leu | Phe | Lys | Asn | Asp | Pro | Leu | Phe | Phe |
| | | | | 305 | | | | | 310 | | | | | 315 |
| Lys | Pro | Gly | Ser | Gln | Phe | Leu | Tyr | Ser | Thr | Phe | Gly | Tyr | Thr | Leu |
| | | | | 320 | | | | | 325 | | | | | 330 |
| Leu | Ala | Ala | Ile | Val | Glu | Arg | Ala | Ser | Gly | Cys | Lys | Tyr | Leu | Asp |
| | | | | 335 | | | | | 340 | | | | | 345 |
| Tyr | Met | Gln | Lys | Ile | Phe | His | Asp | Leu | Asp | Met | Leu | Thr | Thr | Val |
| | | | | 350 | | | | | 355 | | | | | 360 |
| Gln | Glu | Glu | Asn | Glu | Pro | Val | Ile | Tyr | Asn | Arg | Ala | Arg | | |
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<221> Artificial Sequence
<222> 1-30
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<210> 368
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<212> DNA
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<400> 368
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<210> 371
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<212> DNA
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<210> 372

<211> 269

<212> PRT

<213> Homo sapiens

<400> 372

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Ala | Ser | Ala | Gly | Ala | Thr | Arg | Leu | Leu | Leu | Leu | Leu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 |
| Leu | Met | Ala | Val | Ala | Ala | Pro | Ser | Arg | Ala | Arg | Gly | Ser | Gly | Cys |
| | 20 | | | | | | 25 | | | | | | | 30 |
| Arg | Ala | Gly | Thr | Gly | Ala | Arg | Gly | Ala | Gly | Ala | Glu | Gly | Arg | Glu |
| | 35 | | | | | | 40 | | | | | | | 45 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Glu | Ala | Cys | Gly | Thr | Val | Gly | Leu | Leu | Leu | Glu | His | Ser | Phe |
| | | | | | | 50 | | | | 55 | | | | 60 |
| Glu | Ile | Asp | Asp | Ser | Ala | Asn | Phe | Arg | Lys | Arg | Gly | Ser | Leu | Leu |
| | | | | | | 65 | | | 70 | | | | | 75 |
| Trp | Asn | Gln | Gln | Asp | Gly | Thr | Leu | Ser | Leu | Ser | Gln | Arg | Gln | Leu |
| | | | | | | 80 | | | 85 | | | | | 90 |
| Ser | Glu | Glu | Glu | Arg | Gly | Arg | Leu | Arg | Asp | Val | Ala | Ala | Leu | Asn |
| | | | | | | 95 | | | 100 | | | | | 105 |
| Gly | Leu | Tyr | Arg | Val | Arg | Ile | Pro | Arg | Arg | Pro | Gly | Ala | Leu | Asp |
| | | | | | | 110 | | | 115 | | | | | 120 |
| Gly | Leu | Glu | Ala | Gly | Gly | Tyr | Val | Ser | Ser | Phe | Val | Pro | Ala | Cys |
| | | | | | | 125 | | | 130 | | | | | 135 |
| Ser | Leu | Val | Glu | Ser | His | Leu | Ser | Asp | Gln | Leu | Thr | Leu | His | Val |
| | | | | | | 140 | | | 145 | | | | | 150 |
| Asp | Val | Ala | Gly | Asn | Val | Val | Gly | Val | Ser | Val | Val | Thr | His | Pro |
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| Gly | Gly | Cys | Arg | Gly | His | Glu | Val | Glu | Asp | Val | Asp | Leu | Glu | Leu |
| | | | | | | 170 | | | 175 | | | | | 180 |
| Phe | Asn | Thr | Ser | Val | Gln | Leu | Gln | Pro | Pro | Thr | Thr | Ala | Pro | Gly |
| | | | | | | 185 | | | 190 | | | | | 195 |
| Pro | Glu | Thr | Ala | Ala | Phe | Ile | Glu | Arg | Leu | Glu | Met | Glu | Gln | Ala |
| | | | | | | 200 | | | 205 | | | | | 210 |
| Gln | Lys | Ala | Lys | Asn | Pro | Gln | Glu | Gln | Lys | Ser | Phe | Phe | Ala | Lys |
| | | | | | | 215 | | | 220 | | | | | 225 |
| Tyr | Trp | Met | Tyr | Ile | Ile | Pro | Val | Val | Leu | Phe | Leu | Met | Met | Ser |
| | | | | | | 230 | | | 235 | | | | | 240 |
| Gly | Ala | Pro | Asp | Thr | Gly | Gly | Gln | Gly |
| | | | | | | 245 | | | 250 | | | | | 255 |
| Gly | Gly | Gly | Gly | Ser | Gly | Leu | Cys | Cys | Val | Pro | Pro | Ser | Leu | |
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<211> 1706
<212> DNA
<213> *Homo sapiens*

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ctgcttggct cttccctgta ccgtatcgcc acctccaaga ggtaccacct 1050
tcagcccatg cacctgctgt cccttgctgt gctcatcgtc gtcttctctc 1100
tcttcatgtt gactttctct accagccag gccaggagag tccggtggag 1150
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ctccttgc tccatgacag tgatcgaaaa acaggcactc ggaatatgtt 1350
cagcatttgc tctgctgtca tggtgatggc tctgctggca gtgggtggac 1400
tcttcaccgt ggtaaggcat gatgctgagc tgcgggtacc ttcacctact 1450
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gggacagact cttgaattcc agctatccgg gattgtacag atctctctgt 1550
gactgacttt gtgactgtcc tgtggttct cctgcccattg ctttgtttt 1600
gggaggacat gatgggggtg atggactgga aagaagggtgc caaaagttcc 1650

ctctgtgtta ctcccatat gaaaataaac acttttaaat gatcaaaaaa 1700
aaaaaa 1706

<210> 374
<211> 450
<212> PRT
<213> Homo sapiens

<400> 374
Met Leu Val Thr Ala Tyr Leu Ala Phe Val Gly Leu Leu Ala Ser
1 5 10 15

Cys Leu Gly Leu Glu Leu Ser Arg Cys Arg Ala Lys Pro Pro Gly
20 25 30

Arg Ala Cys Ser Asn Pro Ser Phe Leu Arg Phe Gln Leu Asp Phe
35 40 45

Tyr Gln Val Tyr Phe Leu Ala Leu Ala Asp Trp Leu Gln Ala
50 55 60

Pro Tyr Leu Tyr Lys Leu Tyr Gln His Tyr Tyr Phe Leu Glu Gly
65 70 75

Gln Ile Ala Ile Leu Tyr Val Cys Gly Leu Ala Ser Thr Val Leu
80 85 90

Phe Gly Leu Val Ala Ser Ser Leu Val Asp Trp Leu Gly Arg Lys
95 100 105

Asn Ser Cys Val Leu Phe Ser Leu Thr Tyr Ser Leu Cys Cys Leu
110 115 120

Thr Lys Leu Ser Gln Asp Tyr Phe Val Leu Leu Val Gly Arg Ala
125 130 135

Leu Gly Gly Leu Ser Thr Ala Leu Leu Phe Ser Ala Phe Glu Ala
140 145 150

Trp Tyr Ile His Glu His Val Glu Arg His Asp Phe Pro Ala Glu
155 160 165

Trp Ile Pro Ala Thr Phe Ala Arg Ala Ala Phe Trp Asn His Val
170 175 180

Leu Ala Val Val Ala Gly Val Ala Ala Glu Ala Val Ala Ser Trp
185 190 195

Ile Gly Leu Gly Pro Val Ala Pro Phe Val Ala Ala Ile Pro Leu
200 205 210

Leu Ala Leu Ala Gly Ala Leu Ala Leu Arg Asn Trp Gly Glu Asn
215 220 225

Tyr Asp Arg Gln Arg Ala Phe Ser Arg Thr Cys Ala Gly Gly Leu
230 235 240

Arg Cys Leu Leu Ser Asp Arg Arg Val Leu Leu Leu Gly Thr Ile
 245 250 255
 Gln Ala Leu Phe Glu Ser Val Ile Phe Ile Phe Val Phe Leu Trp
 260 265 270
 Thr Pro Val Leu Asp Pro His Gly Ala Pro Leu Gly Ile Ile Phe
 275 280 285
 Ser Ser Phe Met Ala Ala Ser Leu Leu Gly Ser Ser Leu Tyr Arg
 290 295 300
 Ile Ala Thr Ser Lys Arg Tyr His Leu Gln Pro Met His Leu Leu
 305 310 315
 Ser Leu Ala Val Leu Ile Val Val Phe Ser Leu Phe Met Leu Thr
 320 325 330
 Phe Ser Thr Ser Pro Gly Gln Glu Ser Pro Val Glu Ser Phe Ile
 335 340 345
 Ala Phe Leu Leu Ile Glu Leu Ala Cys Gly Leu Tyr Phe Pro Ser
 350 355 360
 Met Ser Phe Leu Arg Arg Lys Val Ile Pro Glu Thr Glu Gln Ala
 365 370 375
 Gly Val Leu Asn Trp Phe Arg Val Pro Leu His Ser Leu Ala Cys
 380 385 390
 Leu Gly Leu Leu Val Leu His Asp Ser Asp Arg Lys Thr Gly Thr
 395 400 405
 Arg Asn Met Phe Ser Ile Cys Ser Ala Val Met Val Met Ala Leu
 410 415 420
 Leu Ala Val Val Gly Leu Phe Thr Val Val Arg His Asp Ala Glu
 425 430 435
 Leu Arg Val Pro Ser Pro Thr Glu Glu Pro Tyr Ala Pro Glu Leu
 440 445 450

<210> 375

<211> 1098

<212> DNA

<213> Artificial

<400> 375

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gctccccgcg tgcgtcgccg cccacggctt ccgtatccat gattatttgt 150

actttcaagt gctgagtcct gggacattc gatacatctt cacagccaca 200

cctgccaagg actttggtgg tatcttcac acaaggatg agcagattca 250

ccttgtcccc gctgaacctc cagaggcctg cggggactc agcaacggtt 300
tcttcatcca ggaccagatt gctctggtgg agaggggggg ctgctccttc 350
ctctccaaga ctcgggtggt ccaggagcac ggccggcgccc cggtgatcat 400
ctctgacaac gcagttgaca atgacagctt ctacgtggag atgatccagg 450
acagtaccca ggcacagct gacatccccg ccctttcct gctggccga 500
gacggctaca tggatccggcc ctctctggaa cagcatgggc tgccatgggc 550
catcatttcc atcccagtca atgtcaccag catccccacc tttgagctgc 600
tgcaaccgcc ctggacccctc tggtagaaga gtttgcctca cattccagcc 650
ataagtgact ctgagctggg aaggggaaac ccaggaattt tgctacttgg 700
aatttggaga tagcatctgg ggacaagtgg agccaggttag agaaaaagg 750
tttggcggt gctaggctga aagggaagcc acaccactgg cttcccttc 800
cccaaggccc ccaagggtgt ctcatgctac aagaagaggg aagagacagg 850
ccccagggtct tctggctaga acccgaaaca aaaggagctg aaggcaggtg 900
gcctgagagc catctgtgac ctgtcacact cacctggctc cagcctcccc 950
taccagggt ctctgcacag tgacccctcac agcagttgtt ggagtggttt 1000
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taaagcttct catcagggtt gcaaaaaaaaaaaaaaaaaaaaaaaa 1098

<210> 376

<211> 188

<212> PRT

<213> Homo sapiens

<400> 376

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Pro | Gly | Ala | Ala | Gly | Trp | Cys | Cys | Leu | Val | Leu | Trp | Leu |
| 1 | | | | 5 | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ala | Cys | Val | Ala | Ala | His | Gly | Phe | Arg | Ile | His | Asp | Tyr | Leu |
| | | | | 20 | | | | 25 | | | | | 30 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Phe | Gln | Val | Leu | Ser | Pro | Gly | Asp | Ile | Arg | Tyr | Ile | Phe | Thr |
| | | | | 35 | | | | 40 | | | | | 45 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Thr | Pro | Ala | Lys | Asp | Phe | Gly | Gly | Ile | Phe | His | Thr | Arg | Tyr |
| | | | | 50 | | | | 55 | | | | | 60 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Gln | Ile | His | Leu | Val | Pro | Ala | Glu | Pro | Pro | Glu | Ala | Cys | Gly |
| | | | | 65 | | | | 70 | | | | | 75 | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Leu | Ser | Asn | Gly | Phe | Phe | Ile | Gln | Asp | Gln | Ile | Ala | Leu | Val |
| | | | | 80 | | | | 85 | | | | | 90 | |

Glu Arg Gly Gly Cys Ser Phe Leu Ser Lys Thr Arg Val Val Gln
95 100 105

Glu His Gly Gly Arg Ala Val Ile Ile Ser Asp Asn Ala Val Asp
110 115 120

Asn Asp Ser Phe Tyr Val Glu Met Ile Gln Asp Ser Thr Gln Arg
125 130 135

Thr Ala Asp Ile Pro Ala Leu Phe Leu Leu Gly Arg Asp Gly Tyr
140 145 150

Met Ile Arg Arg Ser Leu Glu Gln His Gly Leu Pro Trp Ala Ile
155 160 165

Ile Ser Ile Pro Val Asn Val Thr Ser Ile Pro Thr Phe Glu Leu
170 175 180

Leu Gln Pro Pro Trp Thr Phe Trp
185

<210> 377
<211> 496
<212> DNA
<213> Artificial

<220>
<221> unsure
<222> 396
<223> unknown base

<400> 377
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ggctgggtt gatggctgggt gtgattccaa tccagggcgg gatcctgaac 100
ctgaacaaga tggtaagca agtgaactggg aaaatgccc tccttccta 150
ctggccctac ggctgtcact gcggactagg tggcagaggc caacccaaag 200
atgccacgga ctggtgctgc cagaccatg actgctgcta tgaccacctg 250
aagacccagg ggtgcggcat ctacaaggac aacaacaaaa gcagcataca 300
ttgtatggat ttatctcaac gctattgtt aatggctgtg ttaatgtga 350
tctatctgga aaatgaggac tccgaataaa aagctattac tawtnaaaa 400
aaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa 450
aaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa aaaaaaa 496

<210> 378
<211> 116
<212> PRT
<213> Homo sapiens

<400> 378

Met Glu Leu Ala Leu Leu Cys Gly Leu Val Val Met Ala Gly Val
1 5 10 15

Ile Pro Ile Gln Gly Gly Ile Leu Asn Leu Asn Lys Met Val Lys
20 25 30

Gln Val Thr Gly Lys Met Pro Ile Leu Ser Tyr Trp Pro Tyr Gly
35 40 45

Cys His Cys Gly Leu Gly Arg Gly Gln Pro Lys Asp Ala Thr
50 55 60

Asp Trp Cys Cys Gln Thr His Asp Cys Cys Tyr Asp His Leu Lys
65 70 75

Thr Gln Gly Cys Gly Ile Tyr Lys Asp Asn Asn Lys Ser Ser Ile
80 85 90

His Cys Met Asp Leu Ser Gln Arg Tyr Cys Leu Met Ala Val Phe
95 100 105

Asn Val Ile Tyr Leu Glu Asn Glu Asp Ser Glu
110 115

<210> 379

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 379

ctgcctccac tgctctgtgc tggg 24

<210> 380

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 380

cagagcagtg gatgttcccc tggg 24

<210> 381

<211> 45

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-45

<223> Synthetic construct.

<400> 381
ctgaacaaga tggtaagca agtgactggg aaaatgccca tcctc 45

<210> 382

<211> 764

<212> DNA

<213> Homo sapiens

<400> 382
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ggcgatgtgg agggtgcccc gcacaaccag acgcccagtc acaggcgaga 100
gcacctggat gcaccggcca gaggccatgc tgctgctgct cacgcttgcc 150
ctccctgggg gccccacctg ggcagggaag atgtatggcc ctggaggagg 200
caagtatttc agcaccactg aagactacga ccatgaaatc acagggtgc 250
gggtgtctgt aggtcttctc ctggtaaaaa gtgtccaggt gaaacttgg 300
gactcctggg acgtgaaact gggagccta ggtggaaata cccaggaagt 350
caccctgcag ccaggcgaat acatcacaaa agtctttgtc gccttccaag 400
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ccagttaatc tcacataactc agcaaactca cccgtgggtc gctagggtgg 650
ggtatgggc catccgagct gaggccatct gtgtgggtgt ggctgatgg 700
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gccttctgcag aaaa 764

<210> 383

<211> 178

<212> PRT

<213> Homo sapiens

<400> 383
Met His Arg Pro Glu Ala Met Leu Leu Leu Leu Thr Leu Ala Leu
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Leu Gly Gly Pro Thr Trp Ala Gly Lys Met Tyr Gly Pro Gly Gly
20 25 30
Gly Lys Tyr Phe Ser Thr Thr Glu Asp Tyr Asp His Glu Ile Thr
35 40 45

Gly Leu Arg Val Ser Val Gly Leu Leu Leu Val Lys Ser Val Gln
50 55 60

Val Lys Leu Gly Asp Ser Trp Asp Val Lys Leu Gly Ala Leu Gly
65 70 75

Gly Asn Thr Gln Glu Val Thr Leu Gln Pro Gly Glu Tyr Ile Thr
80 85 90

Lys Val Phe Val Ala Phe Gln Ala Phe Leu Arg Gly Met Val Met
95 100 105

Tyr Thr Ser Lys Asp Arg Tyr Phe Tyr Phe Gly Lys Leu Asp Gly
110 115 120

Gln Ile Ser Ser Ala Tyr Pro Ser Gln Glu Gly Gln Val Leu Val
125 130 135

Gly Ile Tyr Gly Gln Tyr Gln Leu Leu Gly Ile Lys Ser Ile Gly
140 145 150

Phe Glu Trp Asn Tyr Pro Leu Glu Glu Pro Thr Thr Glu Pro Pro
155 160 165

Val Asn Leu Thr Tyr Ser Ala Asn Ser Pro Val Gly Arg
170 175

<210> 384
<211> 2379
<212> DNA
<213> Homo sapiens

<400> 384
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atacagatgt ggcagctca gtagccccaa attgcctgga agaatacata 150
atgttttcg ataagaagaa attgttaggat ccagttttt ttttaaccgc 200
ccccctccca ccccccaaaa aaactgtaaa gatgcaaaaa cgtaatatcc 250
atgaagatcc tattacctag gaagatttg atgttttgct gcgaatgcgg 300
tgttggatt tatttgttct tggagtgttc tgcgtggctg gcaaagaata 350
atgttccaaa atcggtccat ctcccaagggt gtccaaattt tcttcctggg 400
tgtcagcgag ccctgactca ctacagtgc gctgacaggg gctgtcatgc 450
aactggcccc taagccaaag caaaagaccc aaggacgacc tttgaacaat 500
acaaaggatg ggtttcaatg taattaggct actgagcggg tcagctgttag 550
cactggttat agccccact gtcttactga caatgcttc ttctgccgaa 600
cgaggatgcc ctaaggcgtg taggtgtgaa ggcaaaatgg tatattgtga 650

atctcagaaa ttacaggaga taccctcaag tataatctgct ggttgcttag 700
gtttgtccct tcgctataac agccttcaaa aacttaagta taatcaattt 750
aaaggggctca accagctcac ctggctatac cttgaccata accatatcag 800
caatattgac gaaaatgctt ttaatggaat acgcagactc aaagagctga 850
ttcttagttc caatagaatc tccttatttc ttaacaatac cttcagacct 900
gtgacaaatt tacggaacctt ggatctgtcc tataatcagc tgcattctct 950
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ggtctaactc cctgagaacc atccctgtgc gaatattcca agactgccgc 1050
aacctggaac ttttggaccc gggatataac cgatccgaa gtttagccag 1100
gaatgtcttt gctggcatga tcagactcaa agaacttcac ctggagcaca 1150
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cagaaccttt acttgcagtg gaataaaatc agtgtcatag gacagaccat 1250
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ggattcttgg atatccctca atgacatcag tcttgctggg aatatatggg 1450
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ctacagagag gtttgatctg gccaggcgtc tcccaaagcc gacgttaag 1650
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gattataaac ccaccaacac ggagaccagc gagatgctgc tgaatggac 2000
gggaccctgc acctataaca aatcggcgtc cagggagtgt gaggtatgaa 2050
ccattgtat aaaaagagct cttaaaagct gggaaataag tggtgcttta 2100

ttgaactctg gtgactatca aggaacgca atgcggccccc tccccttccc 2150
tctccctctc actttggtgg caagatcattt ccttgtccgt ttttagtgcat 2200
tcataatact ggtcattttc ctctcataaca taatcaaccc attgaaattt 2250
aaataccaca atcaatgtga agcttgaact ccggtttaat ataataccta 2300
ttgtataaga ccctttactg attccattaa tgtcgcat tt gtttaagat 2350
aaaacttctt tcataaggtaa aaaaaaaaaa 2379

<210> 385

<211> 513

<212> PRT

<213> Homo sapiens

<400> 385

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Phe | Asn | Val | Ile | Arg | Leu | Leu | Ser | Gly | Ser | Ala | Val | Ala |
| 1 | | | | 5 | | | | 10 | | | | | 15 | |
| Leu | Val | Ile | Ala | Pro | Thr | Val | Leu | Leu | Thr | Met | Leu | Ser | Ser | Ala |
| | | | | 20 | | | | 25 | | | | | 30 | |
| Glu | Arg | Gly | Cys | Pro | Lys | Gly | Cys | Arg | Cys | Glu | Gly | Lys | Met | Val |
| | | | | 35 | | | | 40 | | | | | 45 | |
| Tyr | Cys | Glu | Ser | Gln | Lys | Leu | Gln | Glu | Ile | Pro | Ser | Ser | Ile | Ser |
| | | | | 50 | | | | 55 | | | | | 60 | |
| Ala | Gly | Cys | Leu | Gly | Leu | Ser | Leu | Arg | Tyr | Asn | Ser | Leu | Gln | Lys |
| | | | | 65 | | | | 70 | | | | | 75 | |
| Leu | Lys | Tyr | Asn | Gln | Phe | Lys | Gly | Leu | Asn | Gln | Leu | Thr | Trp | Leu |
| | | | | 80 | | | | 85 | | | | | 90 | |
| Tyr | Leu | Asp | His | Asn | His | Ile | Ser | Asn | Ile | Asp | Glu | Asn | Ala | Phe |
| | | | | 95 | | | | 100 | | | | | 105 | |
| Asn | Gly | Ile | Arg | Arg | Leu | Lys | Glu | Leu | Ile | Leu | Ser | Ser | Asn | Arg |
| | | | | 110 | | | | 115 | | | | | 120 | |
| Ile | Ser | Tyr | Phe | Leu | Asn | Asn | Thr | Phe | Arg | Pro | Val | Thr | Asn | Leu |
| | | | | 125 | | | | 130 | | | | | 135 | |
| Arg | Asn | Leu | Asp | Leu | Ser | Tyr | Asn | Gln | Leu | His | Ser | Leu | Gly | Ser |
| | | | | 140 | | | | 145 | | | | | 150 | |
| Glu | Gln | Phe | Arg | Gly | Leu | Arg | Lys | Leu | Leu | Ser | Leu | His | Leu | Arg |
| | | | | 155 | | | | 160 | | | | | 165 | |
| Ser | Asn | Ser | Leu | Arg | Thr | Ile | Pro | Val | Arg | Ile | Phe | Gln | Asp | Cys |
| | | | | 170 | | | | 175 | | | | | 180 | |
| Arg | Asn | Leu | Glu | Leu | Leu | Asp | Leu | Gly | Tyr | Asn | Arg | Ile | Arg | Ser |
| | | | | 185 | | | | 190 | | | | | 195 | |
| Leu | Ala | Arg | Asn | Val | Phe | Ala | Gly | Met | Ile | Arg | Leu | Lys | Glu | Leu |

| | | |
|---|-----|-----|
| 200 | 205 | 210 |
| His Leu Glu His Asn Gln Phe Ser Lys Leu Asn Leu Ala Leu Phe | | |
| 215 | 220 | 225 |
| Pro Arg Leu Val Ser Leu Gln Asn Leu Tyr Leu Gln Trp Asn Lys | | |
| 230 | 235 | 240 |
| Ile Ser Val Ile Gly Gln Thr Met Ser Trp Thr Trp Ser Ser Leu | | |
| 245 | 250 | 255 |
| Gln Arg Leu Asp Leu Ser Gly Asn Glu Ile Glu Ala Phe Ser Gly | | |
| 260 | 265 | 270 |
| Pro Ser Val Phe Gln Cys Val Pro Asn Leu Gln Arg Leu Asn Leu | | |
| 275 | 280 | 285 |
| Asp Ser Asn Lys Leu Thr Phe Ile Gly Gln Glu Ile Leu Asp Ser | | |
| 290 | 295 | 300 |
| Trp Ile Ser Leu Asn Asp Ile Ser Leu Ala Gly Asn Ile Trp Glu | | |
| 305 | 310 | 315 |
| Cys Ser Arg Asn Ile Cys Ser Leu Val Asn Trp Leu Lys Ser Phe | | |
| 320 | 325 | 330 |
| Lys Gly Leu Arg Glu Asn Thr Ile Ile Cys Ala Ser Pro Lys Glu | | |
| 335 | 340 | 345 |
| Leu Gln Gly Val Asn Val Ile Asp Ala Val Lys Asn Tyr Ser Ile | | |
| 350 | 355 | 360 |
| Cys Gly Lys Ser Thr Thr Glu Arg Phe Asp Leu Ala Arg Ala Leu | | |
| 365 | 370 | 375 |
| Pro Lys Pro Thr Phe Lys Pro Lys Leu Pro Arg Pro Lys His Glu | | |
| 380 | 385 | 390 |
| Ser Lys Pro Pro Leu Pro Pro Thr Val Gly Ala Thr Glu Pro Gly | | |
| 395 | 400 | 405 |
| Pro Glu Thr Asp Ala Asp Ala Glu His Ile Ser Phe His Lys Ile | | |
| 410 | 415 | 420 |
| Ile Ala Gly Ser Val Ala Leu Phe Leu Ser Val Leu Val Ile Leu | | |
| 425 | 430 | 435 |
| Leu Val Ile Tyr Val Ser Trp Lys Arg Tyr Pro Ala Ser Met Lys | | |
| 440 | 445 | 450 |
| Gln Leu Gln Gln Arg Ser Leu Met Arg Arg His Arg Lys Lys Lys | | |
| 455 | 460 | 465 |
| Arg Gln Ser Leu Lys Gln Met Thr Pro Ser Thr Gln Glu Phe Tyr | | |
| 470 | 475 | 480 |
| Val Asp Tyr Lys Pro Thr Asn Thr Glu Thr Ser Glu Met Leu Leu | | |
| 485 | 490 | 495 |

Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu
500 505 510

Cys Glu Val

<210> 386

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 386

ctggatctg aacagttcg gggc 24

<210> 387

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 387

ggtccccagg acatggtctg tccc 24

<210> 388

<211> 48

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-48

<223> Synthetic construct.

<400> 388

gctgagttta catttacggt ctaactccct gagaaccatc cctgtgcg 48

<210> 389

<211> 1449

<212> DNA

<213> Homo sapiens

<400> 389

agttctgaga aagaaggaaa taaacacagg caccaaacc catatcctaag 50

ttgactgtcc tttaaatatg tcaagatcca gactttcag tgtcacctca 100

gcgatctcaa cgatagggat ctttgtttg ccgctattcc agttggtgct 150

ctcgaccta ccatgcgaag aagatgaaat gtgtgtaaat tataatgacc 200

aacaccctaa tggctggat atctggatcc tcctgctgct ggtttggtg 250
gcagctttc tctgtggagc tgtggccctc tgccctccagg gctggctgag 300
gagaccccgaa attgatttcc acaggcgcac catggcagg ttgtgtttg 350
gagacttggaa ctctattttt gggacagaag cagctgtgag tccaactgtt 400
ggaattcacc ttcaaactca aaccctgac ctatatcctg ttccctgctcc 450
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caacctgatt ttagtgttgg attatcaatt taaagtatta acgacatctg 550
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<210> 390

<211> 146

<212> PRT

<213> Homo sapiens

<400> 390

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| Met | Ser | Arg | Ser | Arg | Leu | Phe | Ser | Val | Thr | Ser | Ala | Ile | Ser | Thr |
| 1 | | | | | 5 | | | | 10 | | | | | 15 |

Ile Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp
20 25 30

Leu Pro Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln
35 40 45

His Pro Asn Gly Trp Tyr Ile Trp Ile Leu Leu Leu Leu Val Leu
50 55 60

Val Ala Ala Leu Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys
65 70 75

Trp Leu Arg Arg Pro Arg Ile Asp Ser His Arg Arg Thr Met Ala
80 85 90

Val Phe Ala Val Gly Asp Leu Asp Ser Ile Tyr Gly Thr Glu Ala
95 100 105

Ala Val Ser Pro Thr Val Gly Ile His Leu Gln Thr Gln Thr Pro
110 115 120

Asp Leu Tyr Pro Val Pro Ala Pro Cys Phe Gly Pro Leu Gly Ser
125 130 135

Pro Pro Pro Tyr Glu Glu Ile Val Lys Thr Thr
140 145

<210> 391
<211> 26
<212> DNA
<213> Artificial

<220>
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<222> 1-26
<223> Synthetic construct.

<400> 391
ctttcagtg tcacacctcagc gatctc 26

<210> 392
<211> 23
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.

<400> 392
ccaaaacatg gagcaggaac agg 23

<210> 393
<211> 47
<212> DNA
<213> Artificial

<220>
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<222> 1-47
<223> Synthetic construct.

<400> 393
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<210> 394
<211> 2340
<212> DNA
<213> Homo sapiens

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卷之三

<210> 395

<211> 140

<212> PRT

<213> Homo sapiens

<400> 395

Met Phe Phe Thr Ile Ser Arg Lys Asn Met Ser Gln Lys Leu Ser
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 His Tyr Thr Phe Gln Gln Pro Arg His Gln Ser Ser Val Lys Leu
 35 40 45
 Arg Glu Gln Ile Leu Asp Leu Ser Lys Arg Tyr Val Lys Ala Leu
 50 55 60
 Ala Glu Glu Asn Lys Asn Thr Val Asp Val Glu Asn Gly Ala Ser
 65 70 75
 Met Ala Gly Tyr Ala Asp Leu Lys Arg Thr Ile Ala Val Leu Leu
 80 85 90
 Asp Asp Ile Leu Gln Arg Leu Val Lys Leu Glu Asn Lys Val Asp
 95 100 105
 Tyr Ile Val Val Asn Gly Ser Ala Ala Asn Thr Thr Asn Gly Thr
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 Ser Gly Asn Leu Val Pro Val Thr Thr Asn Lys Arg Thr Asn Val
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 Ser Gly Ser Ile Arg
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<210> 396
 <211> 2639
 <212> DNA
 <213> Homo sapiens

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 cctggccccc cacatcatgc cggtgcccatt ccctctggac acagcccact 250
 tggacctgtc ctccaaccgg ctggagatgg tgaatgagtc ggtgttggcg 300
 gggccgggtt acacgacgtt ggctggctg gatctcagcc acaacctgct 350
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 ttgaccttag cacaatggc ctgacagccc tgccagccga gagttcacc 450
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 ctcagtgtct gccttcacga cgcacagtca gggccggca ctacacgtgg 550
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<210> 397

<211> 353

<212> PRT

<213> Homo sapiens

<400> 397

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Trp | Pro | Leu | Leu | Leu | Leu | Leu | Ala | Val | Ser | Gly | Ala | Gln |
| 1 | | | | 5 | | | | 10 | | | | | 15 | |
| Thr | Thr | Arg | Pro | Cys | Phe | Pro | Gly | Cys | Gln | Cys | Glu | Val | Glu | Thr |
| | | | | 20 | | | | 25 | | | | 30 | | |
| Phe | Gly | Leu | Phe | Asp | Ser | Phe | Ser | Leu | Thr | Arg | Val | Asp | Cys | Ser |
| | | | | 35 | | | | 40 | | | | 45 | | |
| Gly | Leu | Gly | Pro | His | Ile | Met | Pro | Val | Pro | Ile | Pro | Leu | Asp | Thr |
| | | | | 50 | | | | 55 | | | | 60 | | |
| Ala | His | Leu | Asp | Leu | Ser | Ser | Asn | Arg | Leu | Glu | Met | Val | Asn | Glu |
| | | | | 65 | | | | 70 | | | | 75 | | |
| Ser | Val | Leu | Ala | Gly | Pro | Gly | Tyr | Thr | Thr | Leu | Ala | Gly | Leu | Asp |
| | | | | 80 | | | | 85 | | | | 90 | | |
| Leu | Ser | His | Asn | Leu | Leu | Thr | Ser | Ile | Ser | Pro | Thr | Ala | Phe | Ser |
| | | | | 95 | | | | 100 | | | | 105 | | |
| Arg | Leu | Arg | Tyr | Leu | Glu | Ser | Leu | Asp | Leu | Ser | His | Asn | Gly | Leu |
| | | | | 110 | | | | 115 | | | | 120 | | |
| Thr | Ala | Leu | Pro | Ala | Glu | Ser | Phe | Thr | Ser | Ser | Pro | Leu | Ser | Asp |
| | | | | 125 | | | | 130 | | | | 135 | | |
| Val | Asn | Leu | Ser | His | Asn | Gln | Leu | Arg | Glu | Val | Ser | Val | Ser | Ala |
| | | | | 140 | | | | 145 | | | | 150 | | |

Phe Thr Thr His Ser Gln Gly Arg Ala Leu His Val Asp Leu Ser
155 160 165

His Asn Leu Ile His Arg Leu Val Pro His Pro Thr Arg Ala Gly
170 175 180

Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala Trp Asn Arg
185 190 195

Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg Tyr Leu
200 205 210

Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala Phe
215 220 225

Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
230 235 240

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly
245 250 255

Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala
260 265 270

Gly Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp
275 280 285

Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu
290 295 300

His Leu Pro Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg
305 310 315

Cys Arg Arg Leu Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly
320 325 330

Ser Ser Pro Lys Val Pro Leu His Cys Val Asp Thr Arg Glu Ser
335 340 345

Ala Ala Arg Gly Pro Thr Ile Leu
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<210> 398

<211> 23

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 398

ccctgccagc cgagagcttc acc 23

<210> 399

<211> 23

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 399
ggtttgtgcc cgaaagggcc agc 23

<210> 400

<211> 44

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-44

<223> Synthetic construct.

<400> 400
caaccccaag ctttaactggg caggagctga ggtgtttca ggcc 44

<210> 401

<211> 1571

<212> DNA

<213> Homo sapiens

<400> 401
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ctgctgggca ctaacggcg agccaggatg gggacagaat aaaggagcca 250
cgacctgtgc caccaactcg cactcagact ctgaactcag acctgaaatc 300
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ctgcgtttta tctcctatgg actccttcca ctggactgaa gacactcaat 450
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<210> 402
<211> 261
<212> PRT
<213> Homo sapiens

<400> 402
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Thr Cys Trp Ala Leu Thr Ala Glu Pro Gly Trp Gly Gln Asn Lys
35 40 45
Gly Ala Thr Thr Cys Ala Thr Asn Ser His Ser Asp Ser Glu Leu
50 55 60
Arg Pro Glu Ile Phe Ser Ser Arg Glu Ala Trp Gln Phe Phe Leu
65 70 75
Leu Leu Trp Ser Pro Asp Phe Arg Pro Lys Met Lys Ala Ser Ser
80 85 90

<210> 403

<211> 28

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-28

<223> Synthetic construct.

<400> 403

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<210> 404

<211> 26

<212> DNA

<213> Artificial

<220>
<221>

<221> Artificial Sequence
<222> 1-36

<222> 1-26
<223> Synt

<zzz> synthetic construct.

<400> 404
agtccctcatt aagattctga tgtcaa 26

<210> 405
<211> 998
<212> DNA
<213> Homo sapiens

<400> 405
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cttactttag aaaaaatcag agagatgagt ggagtcagtc catttaa 998

<210> 406
<211> 323
<212> PRT
<213> Homo sapiens

<400> 406
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1 5 10 15

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| Arg | Trp | Pro | Arg | Ala | Ser | Lys | Phe | Leu | Leu | Ser | Gly | Cys | Ala | Ala |
| | | | | | | | 20 | | | | | | | 30 |
| Thr | Val | Ala | Glu | Leu | Ala | Thr | Phe | Pro | Leu | Asp | Leu | Thr | Lys | Thr |
| | | | | | | | 35 | | | | | | | 45 |
| Arg | Leu | Gln | Met | Gln | Gly | Glu | Ala | Ala | Leu | Ala | Arg | Leu | Gly | Asp |
| | | | | | | | 50 | | | | | | | 60 |
| Gly | Ala | Arg | Glu | Ser | Ala | Pro | Tyr | Arg | Gly | Met | Val | Arg | Thr | Ala |
| | | | | | | | 65 | | | | | | | 75 |
| Leu | Gly | Ile | Ile | Glu | Glu | Glu | Gly | Phe | Leu | Lys | Leu | Trp | Gln | Gly |
| | | | | | | | 80 | | | | | | | 90 |
| Val | Thr | Pro | Ala | Ile | Tyr | Arg | His | Val | Val | Tyr | Ser | Gly | Gly | Arg |
| | | | | | | | 95 | | | | | | | 105 |
| Met | Val | Thr | Tyr | Glu | His | Leu | Arg | Glu | Val | Val | Phe | Gly | Lys | Ser |
| | | | | | | | 110 | | | | | | | 120 |
| Glu | Asp | Glu | His | Tyr | Pro | Leu | Trp | Lys | Ser | Val | Ile | Gly | Gly | Met |
| | | | | | | | 125 | | | | | | | 135 |
| Met | Ala | Gly | Val | Ile | Gly | Gln | Phe | Leu | Ala | Asn | Pro | Thr | Asp | Leu |
| | | | | | | | 140 | | | | | | | 150 |
| Val | Lys | Val | Gln | Met | Gln | Met | Glu | Gly | Lys | Arg | Lys | Leu | Glu | Gly |
| | | | | | | | 155 | | | | | | | 165 |
| Lys | Pro | Leu | Arg | Phe | Arg | Gly | Val | His | His | Ala | Phe | Ala | Lys | Ile |
| | | | | | | | 170 | | | | | | | 180 |
| Leu | Ala | Glu | Gly | Gly | Ile | Arg | Gly | Leu | Trp | Ala | Gly | Trp | Val | Pro |
| | | | | | | | 185 | | | | | | | 195 |
| Asn | Ile | Gln | Arg | Ala | Ala | Leu | Val | Asn | Met | Gly | Asp | Leu | Thr | Thr |
| | | | | | | | 200 | | | | | | | 210 |
| Tyr | Asp | Thr | Val | Lys | His | Tyr | Leu | Val | Leu | Asn | Thr | Pro | Leu | Glu |
| | | | | | | | 215 | | | | | | | 225 |
| Asp | Asn | Ile | Met | Thr | His | Gly | Leu | Ser | Ser | Leu | Cys | Ser | Gly | Leu |
| | | | | | | | 230 | | | | | | | 240 |
| Val | Ala | Ser | Ile | Leu | Gly | Thr | Pro | Ala | Asp | Val | Ile | Lys | Ser | Arg |
| | | | | | | | 245 | | | | | | | 255 |
| Ile | Met | Asn | Gln | Pro | Arg | Asp | Lys | Gln | Gly | Arg | Gly | Leu | Leu | Tyr |
| | | | | | | | 260 | | | | | | | 270 |
| Lys | Ser | Ser | Thr | Asp | Cys | Leu | Ile | Gln | Ala | Val | Gln | Gly | Glu | Gly |
| | | | | | | | 275 | | | | | | | 285 |
| Phe | Met | Ser | Leu | Tyr | Lys | Gly | Phe | Leu | Pro | Ser | Trp | Leu | Arg | Met |
| | | | | | | | 290 | | | | | | | 300 |
| Thr | Pro | Trp | Ser | Met | Val | Phe | Trp | Leu | Thr | Tyr | Glu | Lys | Ile | Arg |

305

310

315

Glu Met Ser Gly Val Ser Pro Phe
320

<210> 407

<211> 31

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-31

<223> Synthetic construct.

<400> 407

cgcggatccc gttatcgctc tgcgctactg c 31

<210> 408

<211> 34

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-34

<223> Synthetic construct.

<400> 408

gcggaaattct taaaatggac tgactccact catc 34

<210> 409

<211> 1487

<212> DNA

<213> Homo sapiens

<400> 409

cggacgcgtg ggcgcgggac gccggcaggg ttgtggcgca gcagtctcct 50

tcctgcgcgc ggcctgaag tcggcgtggg cgttttagga agctggata 100

cagcatttaa taaaaatatt atgcttaaga agtaaaaatg gcaggcttcc 150

tagataattt tcgttggcca gaatgtgaat gtattgactg gagtgagaga 200

agaaatgctg tggcatctgt tgtcgcaggt atattgttt ttacaggctg 250

gtggataatg attgatgcag ctgtgggtga tcctaagcca gaacagttga 300

accatgcctt tcacacatgt ggttatattt ccacattggc tttcttcatg 350

ataaaatgctg tatccaatgc tcaggtgaga ggtgatagct atgaaagcgg 400

ctgttagga agaacaggtg ctgcagtttgcattt ggtttcatgt 450

tgtatgtttgg gtcacttattt gcttccatgt ggattcttt tggtgcatat 500

gttacccaaa atactgtatgt ttatccggga ctagctgtgt ttttcaaaa 550

tgcaacctata ttttttagca ctctgatcta caaatttggaa agaaccgaag 600
agctatggac ctgagatcac ttcttaagtc acatttcct tttgttatat 650
tctgtttgtat gatagggttt ttatctctca gtacacattt ccaaattggag 700
tagattgtac attaaatgtt ttgtttctt acatttttat gttctgagtt 750
ttgaaatagt tttatgaaat ttcttttattt ttcattgcat agactgttaa 800
tatgttatata atacaagact atatgaattt gataatgagt atcagttttt 850
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gctcatgcct gtaatcccag cactttggaa ggccgaggcg ggccgattgc 1000
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cagctacctg ggaggctgag gcaggagaat cgcttgaacc cggggggcag 1150
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cataaaaggt tttcagcaag ttgttaactt ttttggccta aaaatgaggt 1350
tttttggta aagaaaaat atttgttctt atgtattgaa gaagtgtact 1400
tttatataat gattttttaa atgccccaaag gactagttt gaaagtttctt 1450
ttaaaaagaa ttcctctaattt atgactttat gtgagaa 1487

<210> 410

<211> 158

<212> PRT

<213> Homo sapiens

<400> 410

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Gly | Phe | Leu | Asp | Asn | Phe | Arg | Trp | Pro | Glu | Cys | Glu | Cys |
| 1 | | | | | | | | | 10 | | | | | 15 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Asp | Trp | Ser | Glu | Arg | Arg | Asn | Ala | Val | Ala | Ser | Val | Val | Ala |
| | | | | | | | | | 20 | | | 25 | | 30 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ile | Leu | Phe | Phe | Thr | Gly | Trp | Trp | Ile | Met | Ile | Asp | Ala | Ala |
| | | | | | | | | | 35 | | | 40 | | 45 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Val | Tyr | Pro | Lys | Pro | Glu | Gln | Leu | Asn | His | Ala | Phe | His | Thr |
| | | | | | | | | | 50 | | | 55 | | 60 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Gly | Val | Phe | Ser | Thr | Leu | Ala | Phe | Phe | Met | Ile | Asn | Ala | Val |
| | | | | | | | | | | 65 | | 70 | | 75 |

Ser Asn Ala Gln Val Arg Gly Asp Ser Tyr Glu Ser Gly Cys Leu
80 85 90

Gly Arg Thr Gly Ala Arg Val Trp Leu Phe Ile Gly Phe Met Leu
95 100 105

Met Phe Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Ala
110 115 120

Tyr Val Thr Gln Asn Thr Asp Val Tyr Pro Gly Leu Ala Val Phe
125 130 135

Phe Gln Asn Ala Leu Ile Phe Phe Ser Thr Leu Ile Tyr Lys Phe
140 145 150

Gly Arg Thr Glu Glu Leu Trp Thr
155

<210> 411
<211> 20
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.

<400> 411
gtttgaggaa gctggatatac 20

<210> 412
<211> 20
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.

<400> 412
ccaaactcgaa gcacctgttc 20

<210> 413
<211> 40
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-40
<223> Synthetic construct.

<400> 413
atggcaggct tccttagataa ttttcgttgg ccagaatgtg 40

<210> 414

<211> 1337
<212> DNA
<213> Homo sapiens

<400> 414
gttgcggca aacttcctca aaggaggggc agagcctgcg cagggcagga 50
gcagctggcc cactggcgcc ccgcaacact ccgtctcacc ctctgggcc 100
actgcacatcta gaggagggcc gtctgtgagg ccactacccc tccagcaact 150
gggaggtggg actgtcagaa gctggcccg ggtggtggtc agctgggtca 200
gggacacctacg gcacacctgtg gaccacctcg ccttctccat cgaagcaggg 250
aagtgggagc ctcgagccct cggttggaaag ctgaccccaa gccacccttc 300
acctggacag gatgagagtg tcaggtgtgc ttgcgcctcct ggcgcctc 350
tttgcctatgc tcacgacatg gatgttatt cgaagctaca tgagcttcag 400
cataaaaacc atccgtctgc cacgctggct ggcagccctcg cccaccaagg 450
agatccaggt taaaaagtac aagtgtggcc tcatcaagcc ctgcccagcc 500
aactactttg cgtaaaaat ctgcagtggg gccgccaacg tcgtggcc 550
tactatgtgc tttgaagacc gcatgatcat gagtcctgtg aaaaacaatg 600
tggcagagg cctaaacatc gccctggta atgaaaccac gggagctgtg 650
ctggcacaga aggcatgttga catgtactct ggagatgtt tgacacctagt 700
gaaattcctt aaagaaattc cgggggggtgc actgggtctg gtggcctcct 750
acgacgatcc agggacccaaa atgaacgatg aaagcagggaa actcttctct 800
gacttgggaa gttcctacgc aaaacaactg ggcttccggg acagctgggt 850
cttcatacgtt gccaaagacc tcagggtaa aagccccctt gagcagttct 900
taaagaacag cccagacaca aacaaaatacg agggatggcc agagctgtg 950
gagatggagg gctgcacgtcc cccgaagcca ttttagggtg gctgtggctc 1000
ttcctcagcc aggggcctga agaagctcct gcctgactta ggagtcagag 1050
cccgccagg gctgaggagg aggagcaggg ggtgctgcgt ggaaggtgct 1100
gcaggtcctt gcacgctgtg tcgcgcctct cctcctcgga aacagaaccc 1150
tcccacagca catcctaccc ggaagaccag cctcagaggg tccttctgg 1200
accagctgtc tgtggagaga atggggtgct ttgcgtcagg actgctgacg 1250
gctggtcctg aggaaggaca aactgcccag acttgagccc aattaaattt 1300
tatTTTgct ggTTTgaaa aaaaaaaaaa aaaaaaaaa 1337

<210> 415
 <211> 224
 <212> PRT
 <213> Homo sapiens

<400> 415
 Met Arg Val Ser Gly Val Leu Arg Leu Leu Ala Leu Ile Phe Ala
 1 5 10 15

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Val | Thr | Thr | Trp | Met | Phe | Ile | Arg | Ser | Tyr | Met | Ser | Phe | Ser |
| | 20 | | | | 25 | | | | | 30 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Thr | Ile | Arg | Leu | Pro | Arg | Trp | Leu | Ala | Ala | Ser | Pro | Thr |
| | 35 | | | | 40 | | | | | 45 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Glu | Ile | Gln | Val | Lys | Lys | Tyr | Lys | Cys | Gly | Leu | Ile | Lys | Pro |
| | 50 | | | | 55 | | | | | 60 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Pro | Ala | Asn | Tyr | Phe | Ala | Phe | Lys | Ile | Cys | Ser | Gly | Ala | Ala |
| | 65 | | | | 70 | | | | | 75 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Val | Val | Gly | Pro | Thr | Met | Cys | Phe | Glu | Asp | Arg | Met | Ile | Met |
| | 80 | | | | 85 | | | | | 90 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Pro | Val | Lys | Asn | Asn | Val | Gly | Arg | Gly | Leu | Asn | Ile | Ala | Leu |
| | 95 | | | | | 100 | | | | 105 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Asn | Gly | Thr | Thr | Gly | Ala | Val | Leu | Gly | Gln | Lys | Ala | Phe | Asp |
| | 110 | | | | 115 | | | | | 120 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Tyr | Ser | Gly | Asp | Val | Met | His | Leu | Val | Lys | Phe | Leu | Lys | Glu |
| | 125 | | | | 130 | | | | | 135 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Pro | Gly | Gly | Ala | Leu | Val | Leu | Val | Ala | Ser | Tyr | Asp | Asp | Pro |
| | 140 | | | | 145 | | | | | 150 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Thr | Lys | Met | Asn | Asp | Glu | Ser | Arg | Lys | Leu | Phe | Ser | Asp | Leu |
| | 155 | | | | 160 | | | | | 165 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ser | Ser | Tyr | Ala | Lys | Gln | Leu | Gly | Phe | Arg | Asp | Ser | Trp | Val |
| | 170 | | | | 175 | | | | | 180 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ile | Gly | Ala | Lys | Asp | Leu | Arg | Gly | Lys | Ser | Pro | Phe | Glu | Gln |
| | 185 | | | | 190 | | | | | 195 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Leu | Lys | Asn | Ser | Pro | Asp | Thr | Asn | Lys | Tyr | Glu | Gly | Trp | Pro |
| | 200 | | | | 205 | | | | | 210 | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Glu | Leu | Leu | Glu | Met | Glu | Gly | Cys | Met | Pro | Pro | Lys | Pro | Phe | |
| | 215 | | | | 220 | | | | | | | | | |

<210> 416
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <221> Artificial Sequence

<222> 1-21
<223> Synthetic construct.

<400> 416
gccatagtca cgacatggat g 21

<210> 417
<211> 18
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.

<400> 417
ggatggccag agctgctg 18

<210> 418
<211> 26
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.

<400> 418
aaagtacaag tgtggcctca tcaagg 26

<210> 419
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 419
tctgactcct aagtcaggca ggag 24

<210> 420
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 420
attctctcca cagacagctg gttc 24

<210> 421
<211> 46
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.

<400> 421
gtacaagtgt ggcctcatca agccctgccc agccaactac tttgcg 46

<210> 422
<211> 1701
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 1528
<223> unknown base

<400> 422
gagactgcag agggagataa agagagaggg caaagaggca gcaagagatt 50
tgtcctgggg atccagaaac ccatgataacc ctactgaaca ccgaatcccc 100
tggaaagccc a cagagacaga gacagcaaga gaagcagaga taaataact 150
cacgccagga gctcgctcgc tctctctc tctctctcac tcctccctcc 200
ctctctctct gcctgtccta gtcctctagt cctcaaattc ccagtccct 250
gcaccccttc ctgggacact atgttgttct ccgcctcct gctggaggtg 300
atttggatcc tggctgcaga tgggggtcaa cactggacgt atgagggccc 350
acatggtcag gaccattggc cagcctctta ccctgagtgt ggaaacaatg 400
cccagtcgcc catcgatatt cagacagaca gtgtgacatt tgaccctgat 450
ttgcctgctc tgcagcccca cggatatgac cagcctggca ccgagccccc 500
ggacctgcac aacaatggcc acacagtgc actctctctg ccctctaccc 550
tgtatctggg tggacttccc cgaaaatatg tagctgccc gctccacctg 600
cactggggtc agaaaggatc cccagggggg tcagaacacc agatcaacag 650
tgaagccaca tttgcagagc tccacattgt acattatgac tctgattcct 700
atgacagctt gagtgaggct gctgagaggc ctcagggcct ggctgtcctg 750
ggcatcctaa ttgaggtggg tgagactaag aatatacgat atgaacacat 800
tctgagtcac ttgcatgaag tcaggcataa agatcagaag acctcagtgc 850

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cgctacaatg gctcgctcac aactccccct tgctaccaga gtgtgctctg 950
gacagtttt tatagaaggt cccagattc aatggaacag ctggaaaagc 1000
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cagaactacc gagcccttca gcctctcaat cagcgcattgg tcttgcttc 1100
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ccttcccctg gacatctctt agagaggaat ggacccaggc tgtcattcca 1450
ggaagaactg cagagccttc agcctctcca aacatgttagg aggaaatgag 1500
gaaatcgctg tggtgttaat gcagaganca aactctgttt agttgcaggg 1550
gaagtttggg atatacccca aagtccctcta cccccctact tttatggccc 1600
tttccctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650
gaagttgtat attttgatc aatatatttg gaaattaaag tttctgactt 1700
t 1701

<210> 423
<211> 337
<212> PRT
<213> Homo sapiens

<400> 423
Met Leu Phe Ser Ala Leu Leu Leu Glu Val Ile Trp Ile Leu Ala
1 5 10 15
Ala Asp Gly Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln
20 25 30
Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln
35 40 45
Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp
50 55 60
Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu
65 70 75
Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu

| 80 | 85 | 90 |
|-----------------------------|-----------------|-------------------------|
| Pro Ser Thr Leu Tyr | Leu Gly Gly | Leu Pro Arg Lys |
| 95 | 100 | 105 |
| Ala Gln Leu His Leu His Trp | Gly Gln Lys | Gly Ser Pro Gly |
| 110 | 115 | 120 |
| Ser Glu His Gln Ile Asn Ser | Glu Ala Thr | Phe Ala Glu Leu His |
| 125 | 130 | 135 |
| Ile Val His Tyr Asp Ser Asp | Ser Tyr Asp | Ser Leu Ser Glu Ala |
| 140 | 145 | 150 |
| Ala Glu Arg Pro Gln Gly | Leu Ala Val | Leu Gly Ile Leu Ile Glu |
| 155 | 160 | 165 |
| Val Gly Glu Thr Lys Asn | Ile Ala Tyr | Glu His Ile Leu Ser His |
| 170 | 175 | 180 |
| Leu His Glu Val Arg His Lys | Asp Gln Lys | Thr Ser Val Pro Pro |
| 185 | 190 | 195 |
| Phe Asn Leu Arg Glu | Leu Leu Pro Lys | Gln Leu Gly Gln Tyr Phe |
| 200 | 205 | 210 |
| Arg Tyr Asn Gly Ser | Leu Thr Thr Pro | Pro Cys Tyr Gln Ser Val |
| 215 | 220 | 225 |
| Leu Trp Thr Val Phe | Tyr Arg Arg Ser | Gln Ile Ser Met Glu Gln |
| 230 | 235 | 240 |
| Leu Glu Lys Leu Gln Gly | Thr Leu Phe Ser | Thr Glu Glu Glu Pro |
| 245 | 250 | 255 |
| Ser Lys Leu Leu Val Gln | Asn Tyr Arg Ala | Leu Gln Pro Leu Asn |
| 260 | 265 | 270 |
| Gln Arg Met Val Phe | Ala Ser Phe Ile | Gln Ala Gly Ser Ser Tyr |
| 275 | 280 | 285 |
| Thr Thr Gly Glu Met | Leu Ser Leu Gly | Val Gly Ile Leu Val Gly |
| 290 | 295 | 300 |
| Cys Leu Cys Leu Leu | Leu Ala Val Tyr | Phe Ile Ala Arg Lys Ile |
| 305 | 310 | 315 |
| Arg Lys Lys Arg Leu | Glu Asn Arg Lys | Ser Val Val Phe Thr Ser |
| 320 | 325 | 330 |
| Ala Gln Ala Thr Thr | Glu Ala | |
| 335 | | |

<210> 424

<211> 18

<212> DNA

<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.

<400> 424
gtaaaagtcgc tggccagc 18

<210> 425
<211> 18
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.

<400> 425
cccgatctgc ctgctgta 18

<210> 426
<211> 24
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.

<400> 426
ctgcactgta tggccattat tgtg 24

<210> 427
<211> 45
<212> DNA
<213> Artificial

<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.

<400> 427
cagaaaccca tgataacccta ctgaacacccg aatccccctgg aagcc 45

<210> 428
<211> 1073
<212> DNA
<213> Homo sapiens

<400> 428
aattttcac cagagtaaac ttgagaaacc aactggacct tgagtattgt 50
acattttgcc tcgtggaccc aaaggttagca atctgaaaca tgaggagtagc 100
gattctactg ttttgtcttc taggatcaac tcggtcattt ccacagctca 150

HUMAN GENOME PROJECT

aacctgcttt gggactccct cccacaaaaac tggctccgga tcagggaca 200
ctaccaaacc aacagcagtc aaatcaggc tttccttctt taagtctgat 250
accattaaca cagatgctca cactggggcc agatctgcat ctgttaaatc 300
ctgctgcagg aatgacacct ggtacccaga cccacccatt gaccctggga 350
gggttgaatg tacaacagca actgcaccca catgtgttac caattttgt 400
cacacaactt ggagcccagg gcactatcct aagctcagag gaattgccac 450
aaatcttcac gagcctcatc atccattcct tgcccccggg aggcatcctg 500
cccaccagtc aggcaaaaaa taatccagat gtccaggatg gaagccttcc 550
agcaggagga gcaggtgtaa atcctgccac ccagggaaacc ccagcaggcc 600
gcctcccaac tcccagtggc acagatgacg actttgcagt gaccacccct 650
gcaggcatcc aaaggagcac acatgccatc gaggaagcca ccacagaatc 700
agcaaatgga attcagtaag ctgtttcaaa tttttcaac taagctgcct 750
cgaatttggt gatacatgtg aatctttatc attgattata ttatgaaata 800
gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850
gaaaatattc ttgaaatttc agaaaatatg ttctatgttag agaatccccaa 900
ctttaaaaaa caataattca atggataaat ctgtcttga aatataacat 950
tatgctgcct ggatgatatg catattaaaa catattgga aaactggaaa 1000
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1050
aaaaaaaaaa aaaaaaaaaa aaa 1073

<210> 429

<211> 209

<212> PRT

<213> Homo sapiens

<400> 429

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Ser | Thr | Ile | Leu | Leu | Phe | Cys | Leu | Leu | Gly | Ser | Thr | Arg |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |
| Ser | Leu | Pro | Gln | Leu | Lys | Pro | Ala | Leu | Gly | Leu | Pro | Pro | Thr | Lys |
| | | | | 20 | | | | 25 | | | | 30 | | |
| Leu | Ala | Pro | Asp | Gln | Gly | Thr | Leu | Pro | Asn | Gln | Gln | Gln | Ser | Asn |
| | | | | 35 | | | | 40 | | | | 45 | | |
| Gln | Val | Phe | Pro | Ser | Leu | Ser | Leu | Ile | Pro | Leu | Thr | Gln | Met | Leu |
| | | | | 50 | | | | 55 | | | | 60 | | |
| Thr | Leu | Gly | Pro | Asp | Leu | His | Leu | Leu | Asn | Pro | Ala | Ala | Gly | Met |
| | | | | 65 | | | | 70 | | | | 75 | | |

Thr Pro Gly Thr Gln Thr His Pro Leu Thr Leu Gly Gly Leu Asn
80 85 90

Val Gln Gln Gln Leu His Pro His Val Leu Pro Ile Phe Val Thr
95 100 105

Gln Leu Gly Ala Gln Gly Thr Ile Leu Ser Ser Glu Glu Leu Pro
110 115 120

Gln Ile Phe Thr Ser Leu Ile Ile His Ser Leu Phe Pro Gly Gly
125 130 135

Ile Leu Pro Thr Ser Gln Ala Gly Ala Asn Pro Asp Val Gln Asp
140 145 150

Gly Ser Leu Pro Ala Gly Gly Ala Gly Val Asn Pro Ala Thr Gln
155 160 165

Gly Thr Pro Ala Gly Arg Leu Pro Thr Pro Ser Gly Thr Asp Asp
170 175 180

Asp Phe Ala Val Thr Thr Pro Ala Gly Ile Gln Arg Ser Thr His
185 190 195

Ala Ile Glu Glu Ala Thr Thr Glu Ser Ala Asn Gly Ile Gln
200 205

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ccgcctccag ctccgcgtg cccggcagcc gggagccatg cgaccccagg 150
gccccgcccgc ctcccccgcag cggctccgcg gcctcctgct gctcctgctg 200
ctgcagctgc ccgcgcgtc gagcgcctct gagatcccc agggaaagca 250
aaaggcgcag ctccggcaga gggaggttgt ggacctgtat aatggaatgt 300
gcttacaagg gccagcagga gtgcctggtc gagacggag ccctggggcc 350
aatgttattc cgggtacacc tggatcccc ggtcgggatg gattcaaagg 400
agaaaagggg gaatgtctga gggaaagctt tgaggagtcc tggacaccca 450
actacaagca gtgttcatgg agttcattga attatggcat agatcttggg 500
aaaattgcgg agtgtacatt tacaaagatg cggtcaaata gtgtcttaag 550
agttttgttc agtggctcac ttccggctaaa atgcagaaat gcatgctgtc 600
agcgttggta tttcacattc aatggagctg aatgttcagg acctttccc 650

attgaagcta taattttattt ggaccaagga agccctgaaa tgaattcaac 700
aattaatatt catcgactt cttctgtgga aggacttgtt gaaggaattg 750
gtgctggatt agtggatgtt gctatctggg ttggcacttg ttcagattac 800
ccaaaaggag atgcttctac tggatggaat tcagttctc gcattcattat 850
tgaagaacta ccaaaataaa tgcttaatt ttcatttgct acctctttt 900
ttattatgcc ttggaatggt tcacttaat gacattttaa ataagtttat 950
gtatacatct gaatgaaaag caaagctaaa tatgtttaca gaccaaagtg 1000
tgatttcaca ctgttttaa atctagcatt attcatttt cttcaatcaa 1050
aagtggttc aatattttt ttagttgggt agaatacttt cttcatagtc 1100
acattctctc aacctataat ttggaatatt gttgtggct tttgttttt 1150
ctcttagtat agcattttta aaaaaatata aaagctacca atctttgtac 1200
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tccaaca 1257

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<213> Homo Sapien

<400> 431

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Pro | Gln | Gly | Pro | Ala | Ala | Ser | Pro | Gln | Arg | Leu | Arg | Gly |
| 1 | | | | 5 | | | | | 10 | | | | 15 | |
| Leu | Gln | Leu | Pro | Ala | Pro | Ser | Ser | Ala |
| | | | | | | | | 20 | | | 25 | | | 30 |
| Ser | Glu | Ile | Pro | Lys | Gly | Lys | Gln | Lys | Ala | Gln | Leu | Arg | Gln | Arg |
| | | | | 35 | | | | 40 | | | | | 45 | |
| Glu | Val | Val | Asp | Leu | Tyr | Asn | Gly | Met | Cys | Leu | Gln | Gly | Pro | Ala |
| | | | | 50 | | | | 55 | | | | | 60 | |
| Gly | Val | Pro | Gly | Arg | Asp | Gly | Ser | Pro | Gly | Ala | Asn | Val | Ile | Pro |
| | | | | 65 | | | | 70 | | | | 75 | | |
| Gly | Thr | Pro | Gly | Ile | Pro | Gly | Arg | Asp | Gly | Phe | Lys | Gly | Glu | Lys |
| | | | | 80 | | | | 85 | | | | 90 | | |
| Gly | Glu | Cys | Leu | Arg | Glu | Ser | Phe | Glu | Glu | Ser | Trp | Thr | Pro | Asn |
| | | | | 95 | | | | 100 | | | | 105 | | |
| Tyr | Lys | Gln | Cys | Ser | Trp | Ser | Ser | Leu | Asn | Tyr | Gly | Ile | Asp | Leu |
| | | | | 110 | | | | 115 | | | | 120 | | |
| Gly | Lys | Ile | Ala | Glu | Cys | Thr | Phe | Thr | Lys | Met | Arg | Ser | Asn | Ser |
| | | | | 125 | | | | 130 | | | | 135 | | |

Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
140 145 150

Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
155 160 165

Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
170 175 180

Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
185 190 195

Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
200 205 210

Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
215 220 225

Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
230 235 240

Leu Pro Lys

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<210> 472

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gggaggctta taggccaaat ctgg 24

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